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# PacketExpert™ 100G- Comprehensive Ethernet/IP Test Solution

1G, 10G, 25G, 40G, 50G and 100Gbps

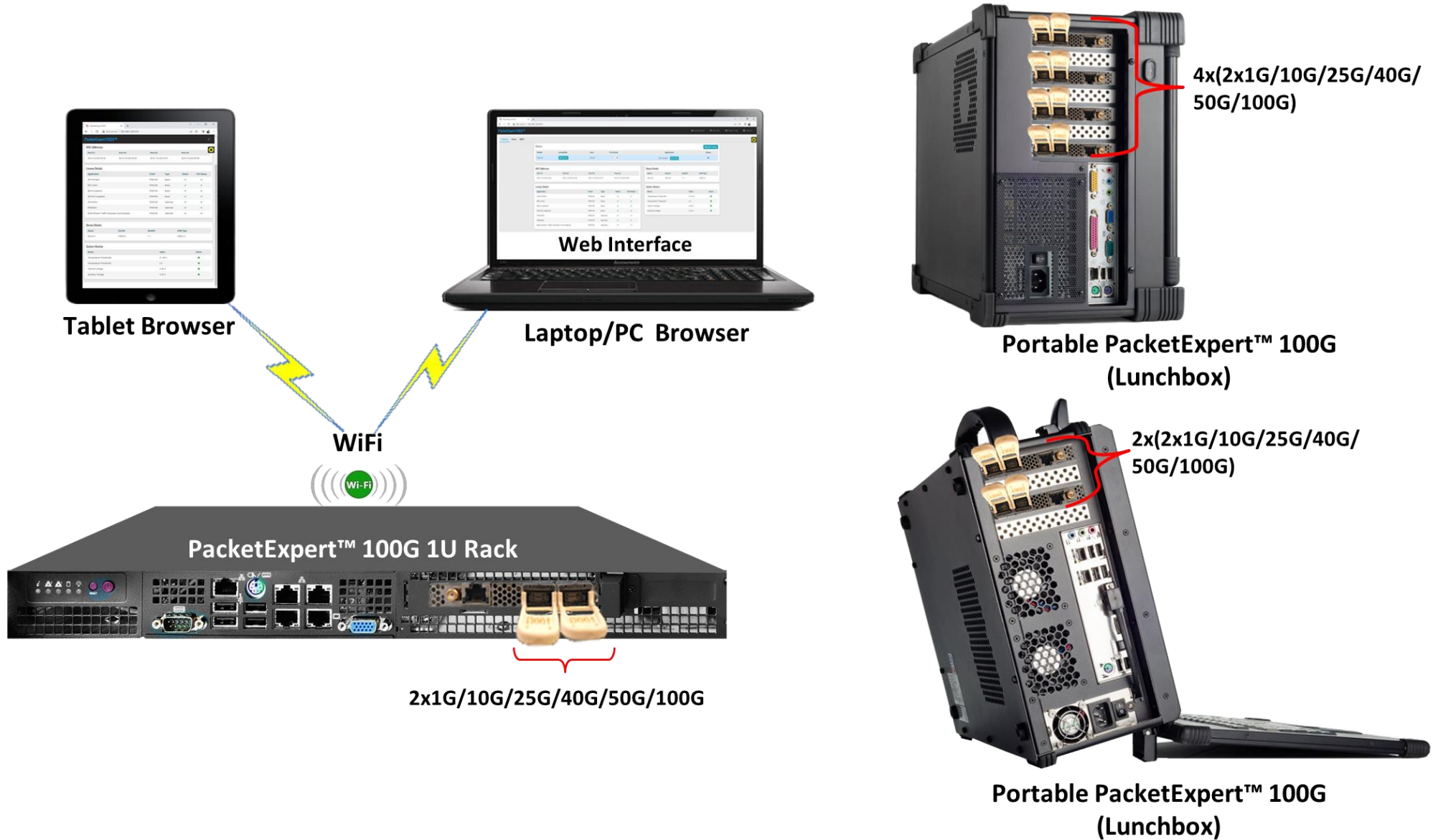
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 **GL Communications Inc.**

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Website: <https://www.gl.com>

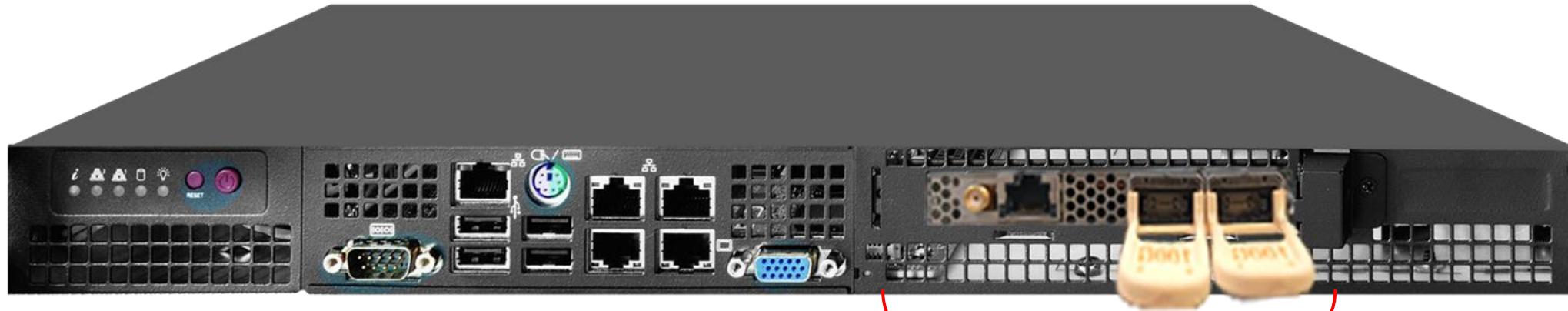
# PacketExpert™ 100G



# Main Features

- Portable PCIe based hardware supports 2\*100G ports
- High density options allow 4\*100G and 6\*100G ports
- Supports QSFP28 form factor
- Supports 1G, 10G, 25G, 40G and 50G speeds on the same ports using QSFP adapters with respective SFP modules
- Includes web-based interface, accessible through all standard web browsers across different operating systems
- The web interface allows multiple users to connect to a single web server and independently run tests on different hardware units
- Control multiple devices from a single GUI, multiplying the number of ports available per system
- Simultaneously generate and receive Ethernet traffic at 100% wire-speed (bidirectional 100 Gbps rate)
- User-configurable frame size and rate
- Wire speed BERT, Smart Loopback and RFC 2544 applications
- Support for frame lengths from 64 bytes to Jumbo frames (up to 2048 bytes)
- Test at Ethernet (Layer 2), VLAN / Stacked MPLS (Layer 2.5), IP (Layer 3 including IPv4 and IPv6) and UDP (Layer 4)
- Customize Ethernet, IP and UDP protocol headers

# PacketExpert™ 100G – 1U Rack PC



<b>Dimensions</b>	1.7" H x 17.2" W x 9.8" D
<b>Weight</b>	10 lbs
<b>Expansion slots</b>	1x Full-height
<b>Power supply</b>	200W

2x1G/10G/25G/40G/50G/100G

# PacketExpert™ 100G Portable Platforms (Lunchbox)



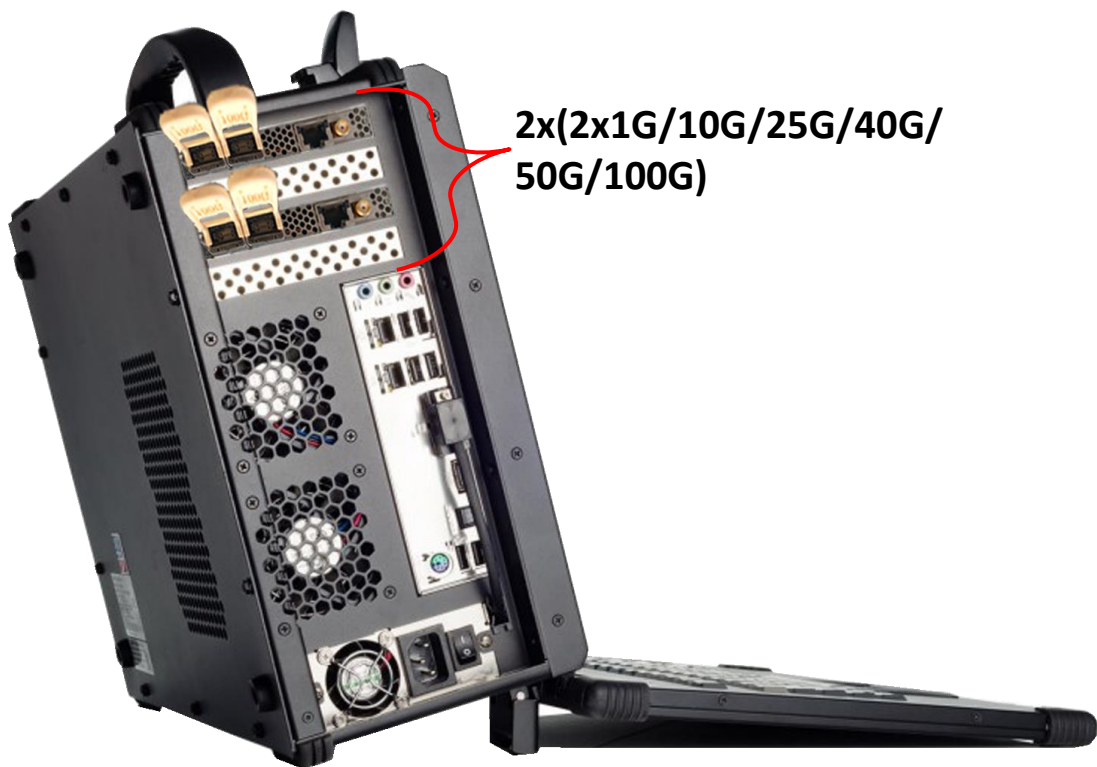
2x1G/10G/25G/40G/  
50G/100G

**Ultra-Portable PacketExpert™ 100G  
(Lunchbox)**



<b>Dimensions</b>	12.4" H x 16.41" W x 4.39" D
<b>Weight</b>	16.5 lbs
<b>Expansion slots</b>	Up to 2
<b>Power supply</b>	400W (optional 500W)
<b>Display</b>	17.3" 1920x1080

# PacketExpert™ 100G Portable Platforms (Lunchbox)



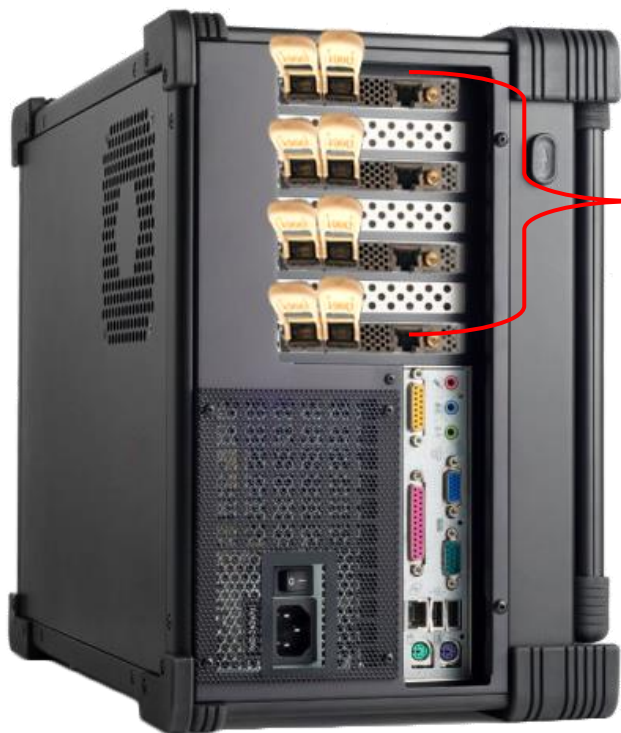
2x(2x1G/10G/25G/40G/  
50G/100G)



**Portable PacketExpert™ 100G  
(Lunchbox)**

<b>Dimensions</b>	13.62" H x 16.50" W x 7.25" D
<b>Weight</b>	~23 LBS (10.4KG)
<b>Expansion slots</b>	Up to 4
<b>Power supply</b>	680W 100/240VAC
<b>Display</b>	17.3" 1920x1080

# PacketExpert™ 100G Portable Platforms (Lunchbox)



4x(2x1G/10G/25G/40G/  
50G/100G)



**Portable PacketExpert™ 100G  
(Lunchbox)**

<b>Dimensions</b>	17.06" x 13.67" x 9.02" (H x W x D)
<b>Weight</b>	~30 LBS
<b>Expansion slots</b>	Up to 7
<b>Power supply</b>	1000W 100-240V 50-60 Hz 80PLUS
<b>Display</b>	17.3" 1920x1080

# PacketExpert™ 100G – 4U Rack PC



**4x(2x1G/10G/25G/40G/50G/100G)**

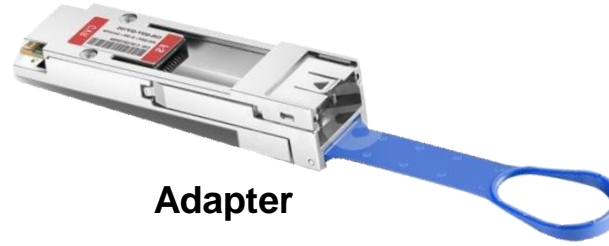
Dimensions	6.9" H x 16.9" W x 17.5" D
Weight	35 lbs.
Expansion slots	7
Power supply	1300W



# Optical Connectors and SFP Transceivers



**100G QSFP28 Optical Transceiver**



**Adapter**



**SFP28 Optical Transceiver**



**40G QSFP+ Transceiver**



**SFP+ Optical Transceiver**



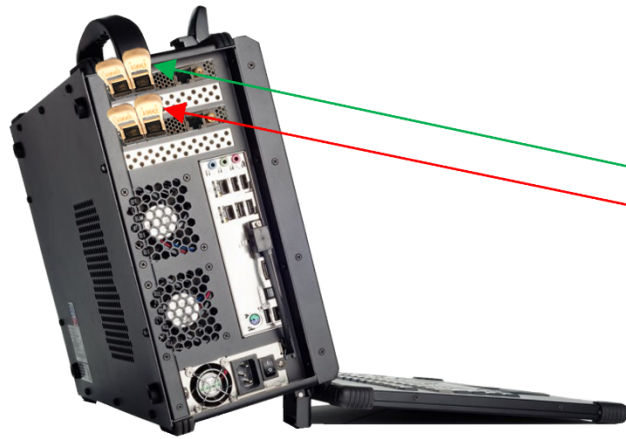
**LC Connector**



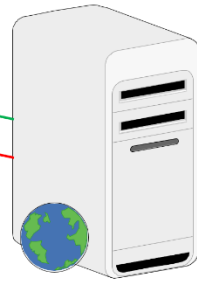
**MTP/MPO Connector**

- Many More Optical Connectors and SFP Transceivers can be used

# PacketExpert™ 100G Architecture



PacketExpert™ 100G

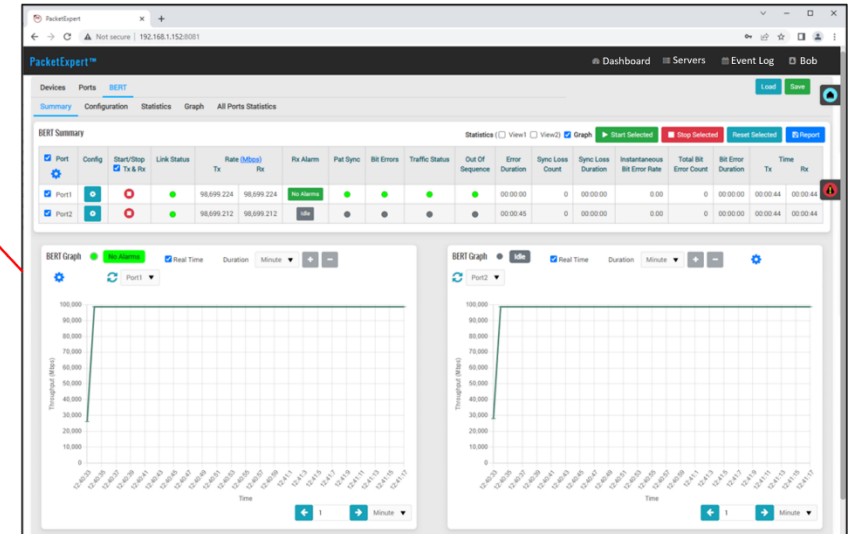
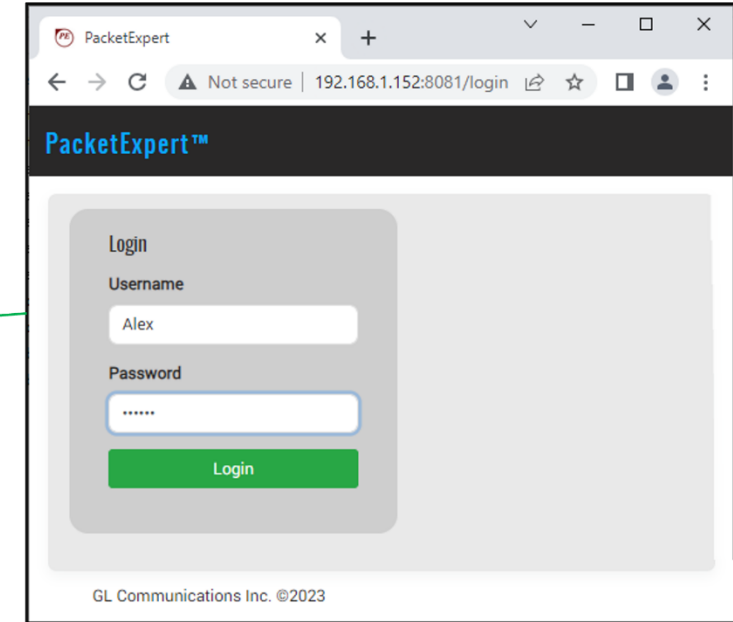


Web Server

Alex on Web Browser

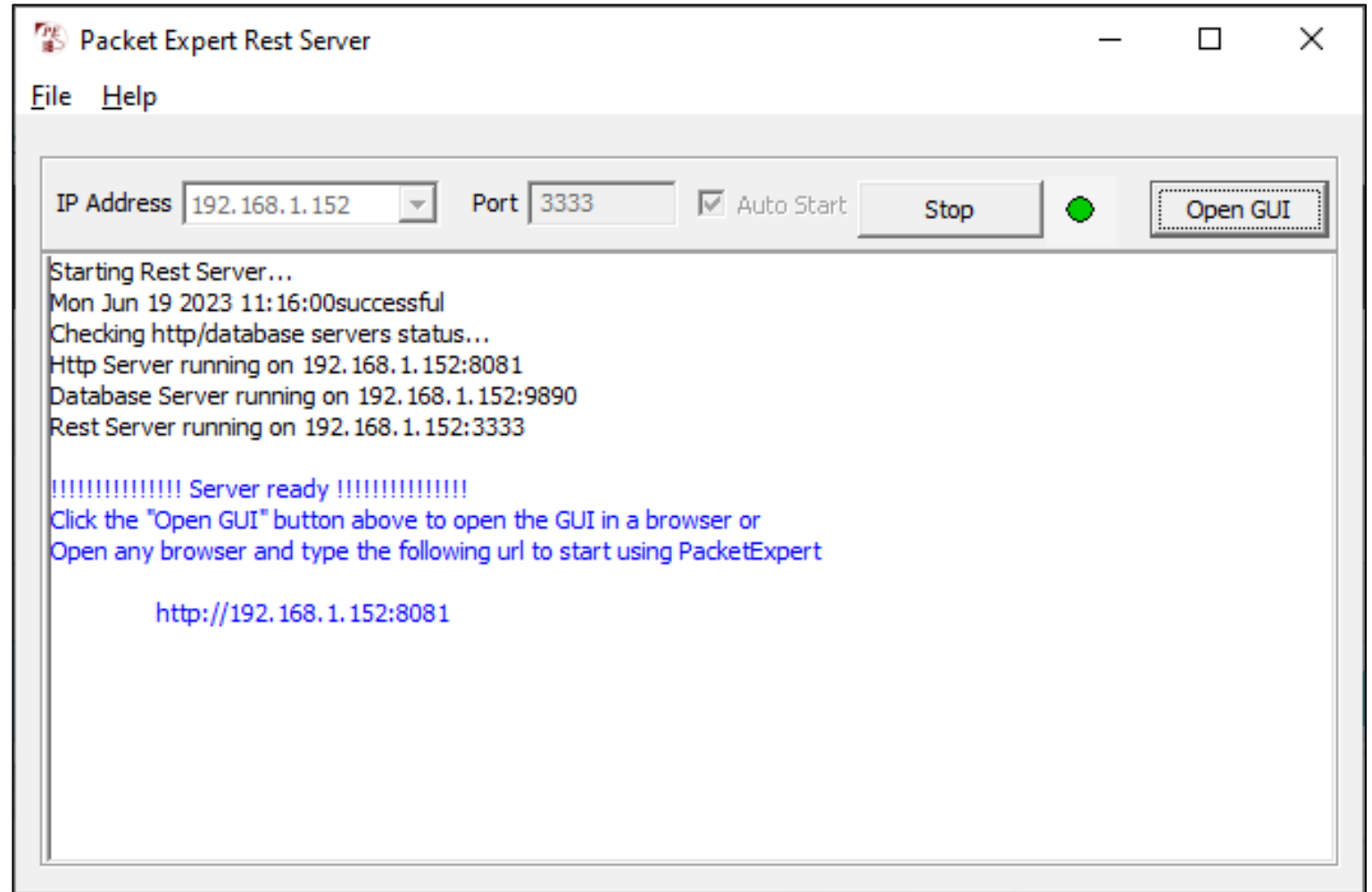


Bob on Web Browser



# PacketExpert™ 100G Rest / Web Server

- Click the **Open GUI** button to open the PacketExpert™ 100G Web interface through the default browser



# PacketExpert™ 100G Login Page

The screenshot shows a web browser window with the following details:

- Browser Tab:** PacketExpert
- Address Bar:** Not secure | 192.168.1.152:8081/login
- Page Header:** PacketExpert™
- Login Form:**
  - Title:** Login
  - Username:** Admin
  - Password:** ..
  - Button:** Login
- Footer:** GL Communications Inc. ©2023

A red box highlights the browser tab and address bar. A red arrow points from the text "Web Browser with PacketExpert™ 100G Web Address" to the browser window.

# Servers Window

The screenshot shows a web browser window with the PacketExpert logo and navigation menu. The 'Servers' menu item is highlighted with a red box. Below the navigation bar, there is a 'Servers' section with a 'Load' and 'Save' button. A form below contains input fields for 'Server Name' (Server2), 'IP Address' (192.168.1.152), and 'Port' (3333), along with an '+ Add Server' button. A table below the form lists server details. The first row of the table is highlighted with a red box.

SI No	Server Name	IP Address	Port	Status	
1	Server1	192.168.1.152	3333	Active	

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# Device Availability

- **Availability:** Indicates whether the PacketExpert™ 100G application is available for the test, or it is reserved
- If it is **Available**, indicates the device which is connected to the server is Available for the test. Click the **Available** option to make the device Reserved
- If it is **Reserved**, indicates the PacketExpert™ 100G device is in use

The screenshot shows the PacketExpert™ web interface. The browser address bar indicates the URL is 192.168.1.152:8081/dashboard. The dashboard has a navigation bar with 'Dashboard', 'Servers', 'Event Log', and 'Admin'. The main content area is titled 'Devices' and includes a 'Load' button and a 'Save' button. A table lists device information:

Serial#	Availability	User	Speed	Application	Test Status
0000-270288	Available		100G	All Port BERT	●

The 'Availability' column for the first device is highlighted with a red box, and the 'Available' button within that cell is also highlighted. Below the main table are three summary panels: 'MAC Addresses' (showing Port #1: 00-0D-E9-08-D2-EB and Port #2: 00-0D-E9-08-D2-EC), 'Device Details' (showing Name: Device1, Serial#: 0000-270288, Model#: 860-0001-01-20, BoardName: NT200A02-01), and 'System Monitor' (showing Board Temperature at 44°C and Core Supply Temperature at 45°C, both with green alarm indicators).

# Loading Speed

- Click on 'Devices' and under the 'Speed' drop-down menu select the desired rates

The screenshot shows the PacketExpert web interface. The browser address bar displays '192.168.1.152:8081'. The interface includes a navigation bar with 'Dashboard', 'Servers', 'Event Log', and 'Admin'. The main content area is titled 'Devices' and features a table with columns: Serial#, Availability, User, Speed, Application, and Test Status. A dropdown menu for the 'Speed' column is open, showing options: 25G/10G/1G, 100G, 50G, 40G, and 25G/10G/1G. The '100G' option is highlighted. Below the table are sections for 'MAC Addresses', 'Device Details', 'System Monitor', and 'Version'.

Serial#	Availability	User	Speed	Application	Test Status
0000-270288	Reserved	Admin	25G/10G/1G	All Port BERT	

Port #1	Port #2
00-0D-E9-08-D2-EB	00-0D-E9-08-D2-EC

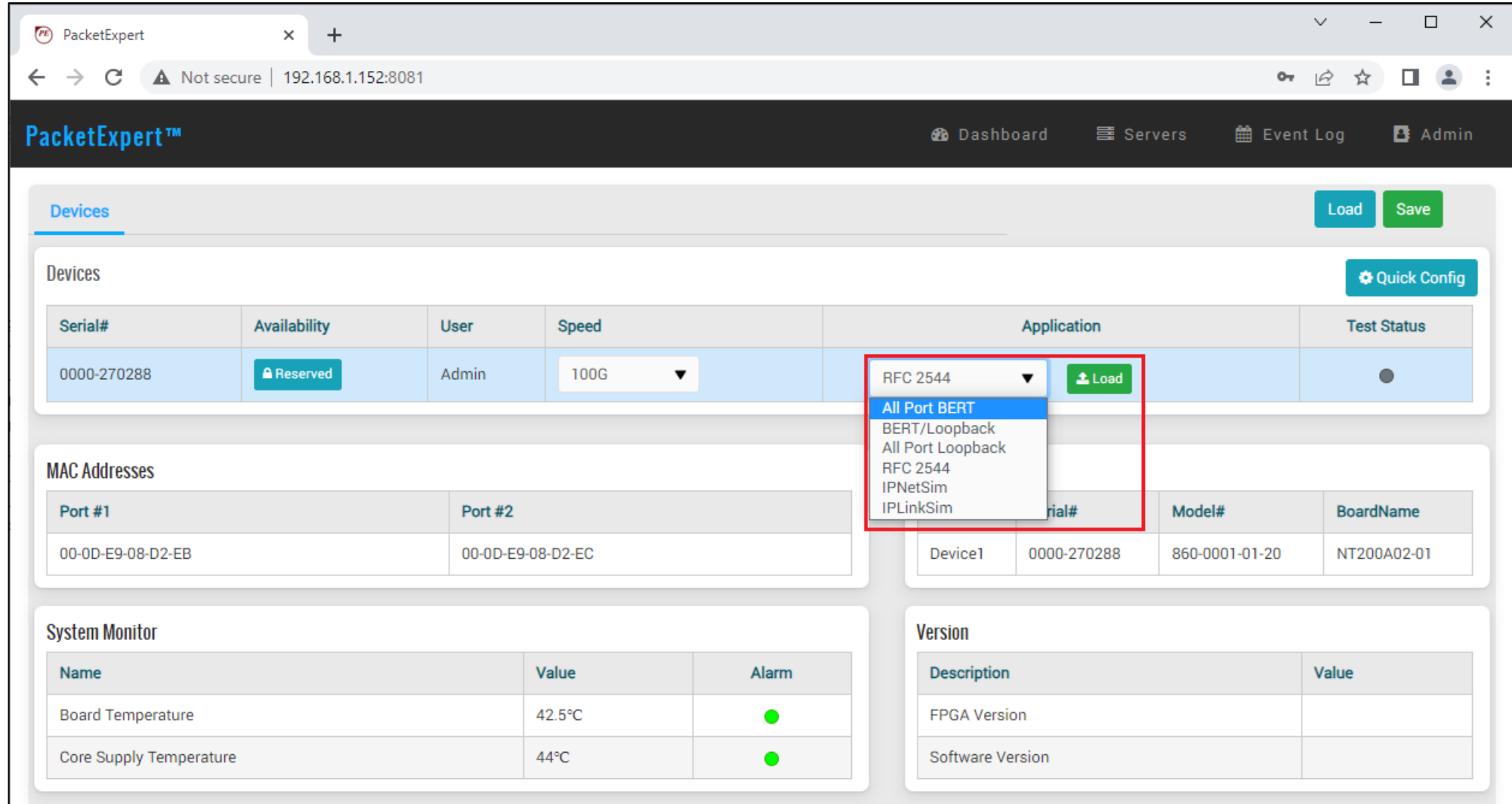
Name	Serial#	Model#	BoardName
Device1	0000-270288	860-0001-01-20	NT200A02-01

Name	Value	Alarm
Board Temperature	46.5°C	●
Core Supply Temperature	47°C	●

Description	Value
FPGA Version	
Software Version	

# Loading Applications

- Click on '**Devices**' and under the '**Application**' drop-down menu select the desired test



The screenshot shows the PacketExpert web interface. The browser address bar indicates the URL is 192.168.1.152:8081. The interface has a navigation bar with 'Dashboard', 'Servers', 'Event Log', and 'Admin'. The main content area is titled 'Devices' and contains a table with columns: Serial#, Availability, User, Speed, Application, and Test Status. A red box highlights the 'Application' dropdown menu for the device with Serial# 0000-270288. The dropdown menu is open, showing options: RFC 2544, All Port BERT, BERT/Loopback, All Port Loopback, RFC 2544, IPNetSim, and IPLinkSim. Below the table, there are sections for 'MAC Addresses', 'System Monitor', and 'Version'.

Serial#	Availability	User	Speed	Application	Test Status
0000-270288	Reserved	Admin	100G	RFC 2544	

Port #1	Port #2
00-0D-E9-08-D2-EB	00-0D-E9-08-D2-EC

Device1	Serial#	Model#	BoardName
Device1	0000-270288	860-0001-01-20	NT200A02-01

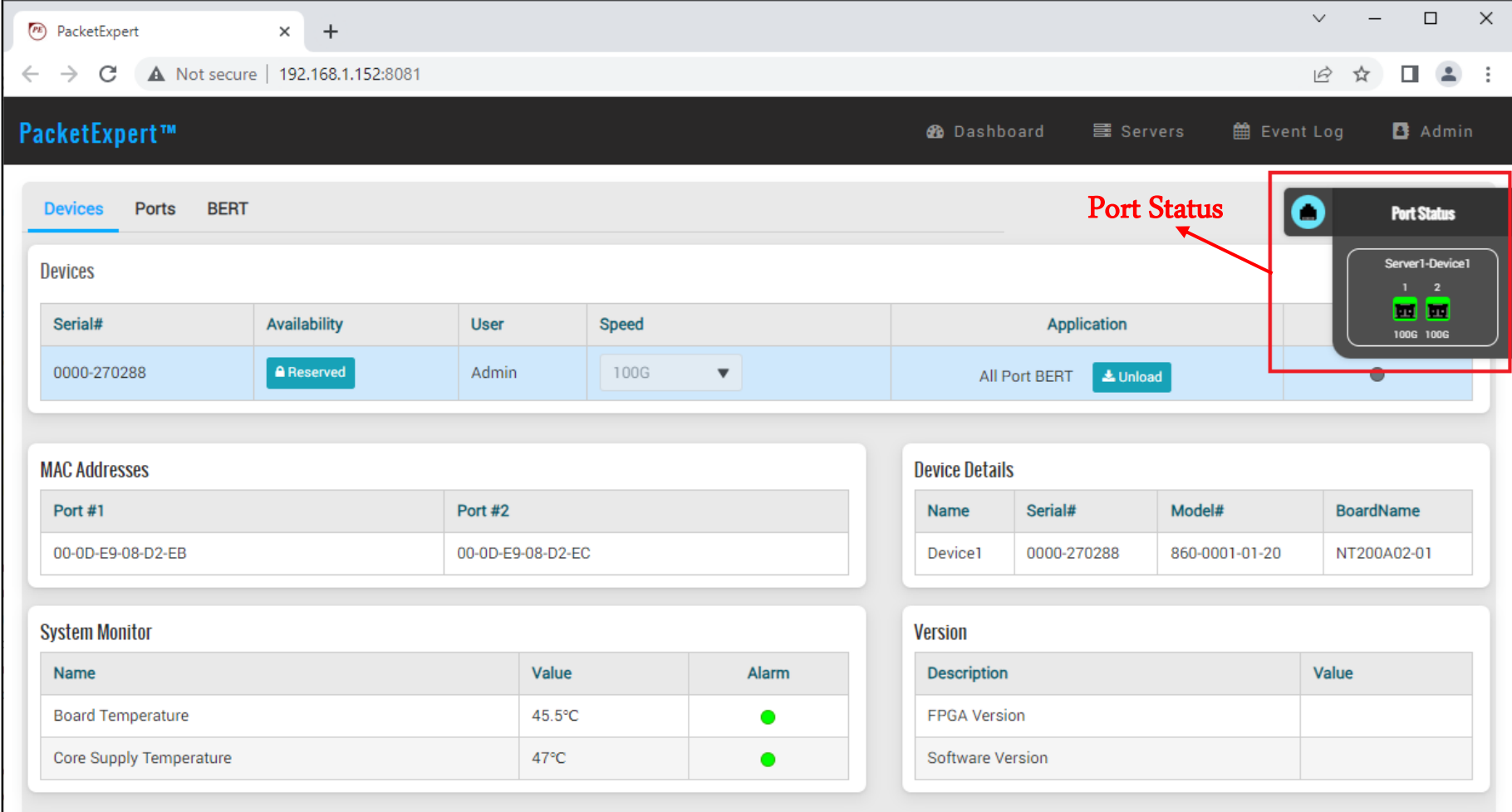
Name	Value	Alarm
Board Temperature	42.5°C	●
Core Supply Temperature	44°C	●

Description	Value
FPGA Version	
Software Version	



# Port Status

- Display the connected port status
- Once the application is loaded, the Port Status icon appear in the top right corner of the interface
- **Green** indicates the link is **Up**
- **Red** indicates the link is **Down**



The screenshot shows the PacketExpert web interface. The browser address bar displays '192.168.1.152:8081'. The interface includes a navigation bar with 'Dashboard', 'Servers', 'Event Log', and 'Admin'. Below this, there are tabs for 'Devices', 'Ports', and 'BERT'. The 'Devices' tab is active, showing a table with columns: Serial#, Availability, User, Speed, and Application. A single device is listed with Serial# 0000-270288, Availability 'Reserved', User 'Admin', Speed '100G', and Application 'All Port BERT'. Below the table are sections for 'MAC Addresses', 'Device Details', 'System Monitor', and 'Version'. The 'Port Status' icon is highlighted in the top right corner, showing a small window with two green indicators for 'Server1-Device1' ports 1 and 2, both labeled '100G'.

Serial#	Availability	User	Speed	Application
0000-270288	Reserved	Admin	100G	All Port BERT

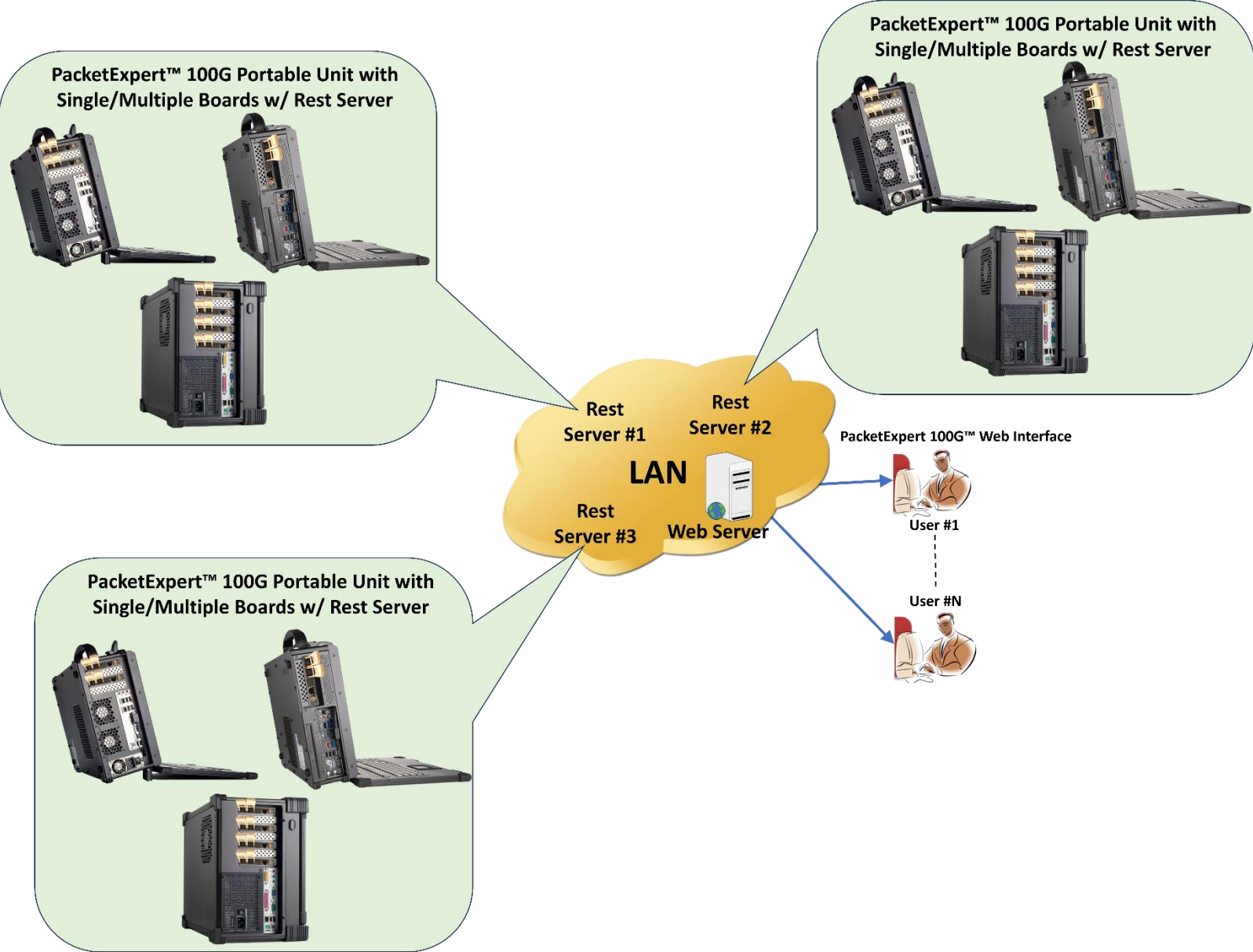
Port #1	Port #2
00-0D-E9-08-D2-EB	00-0D-E9-08-D2-EC

Name	Serial#	Model#	BoardName
Device1	0000-270288	860-0001-01-20	NT200A02-01

Name	Value	Alarm
Board Temperature	45.5°C	●
Core Supply Temperature	47°C	●

Description	Value
FPGA Version	
Software Version	

# PacketExpert™ 100G - Multiple Users with Multiple Servers and Devices



# Configuring PacketExpert™ for 1, 10, 25, 40, 50, & 100G Speeds

- Click on 'Devices' and under the 'Speed' drop-down menu select the desired rates

Web Browser with PacketExpert™ 100G Web Address

PacketExpert™ Dashboard Servers Event Log User2

Devices Load Save

Device	Serial#	Availability	User	Speed	Application	Test Status
Device1	0000-271142	Reserved	User1	100G	All Port BERT	●
Device2	0000-271144	Reserved	User1	100G	BERT/Loopback	●
Device3	0000-271145	Reserved	User2	25G/10G/1G	All Port BERT	●

Supported Multi Rates

Quick Config

MAC Addresses

Port #1	Port #2
00-0D-E9-08-F1-84	00-0D-E9-08-F1-85

Device Details

Name	Serial#	Model#	BoardName
Device3	0000-271145	860-0001-01-20	NT200A02-01

System Monitor

Name	Value	Alarm
Board Temperature	47°C	●
Core Supply Temperature	50°C	●

Version

Description	Value
FPGA Version	23.5.30
Software Version	23.6.16.0

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# Supported PacketExpert™ Applications

- Click on 'Devices' and under the 'Application' drop-down menu select the desired test

The screenshot shows the PacketExpert web interface. The main content area is titled 'Devices' and contains a table with the following data:

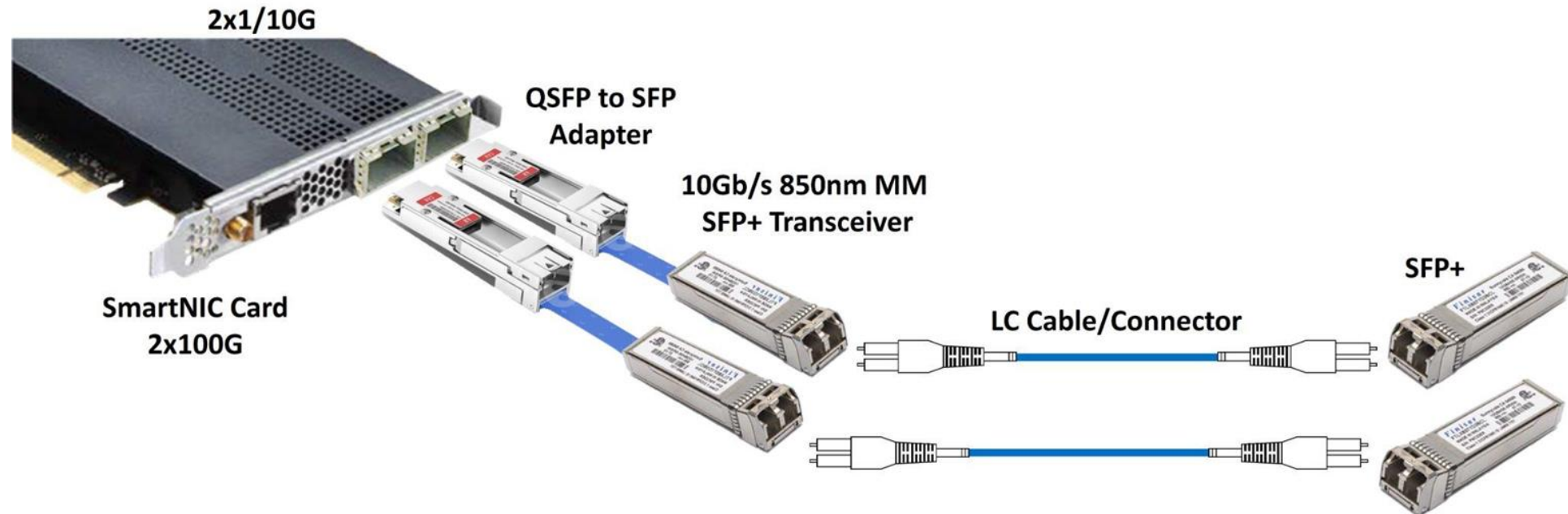
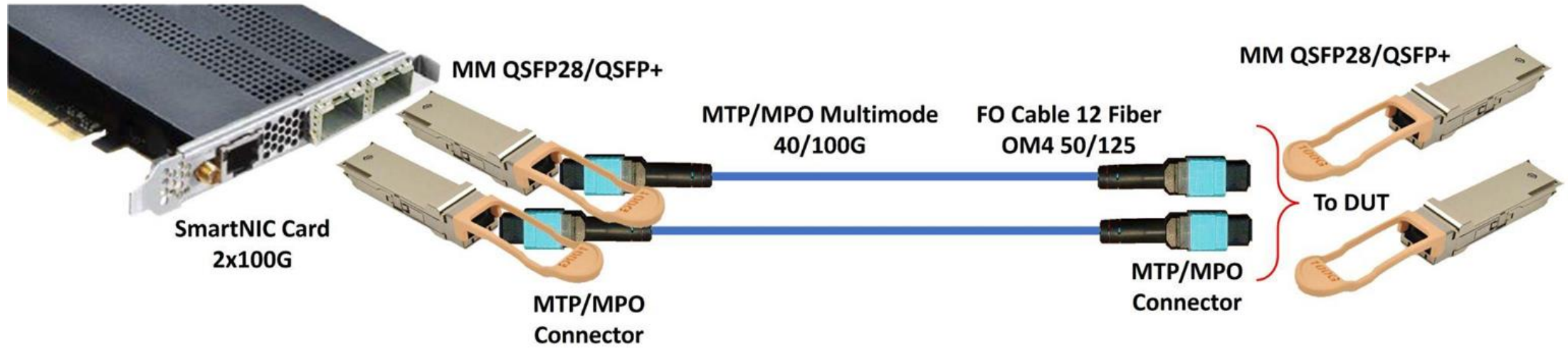
Device	Serial#	Availability	User	Speed	Application	Test Status
Device1	0000-271142	Reserved	User1	100G	All Port BERT	●
Device2	0000-271144	Reserved	User1	100G	BERT/Loopback	●
Device3	0000-271145	Reserved	User2	100G	All Port BERT	●

Below the table, there are several other sections:

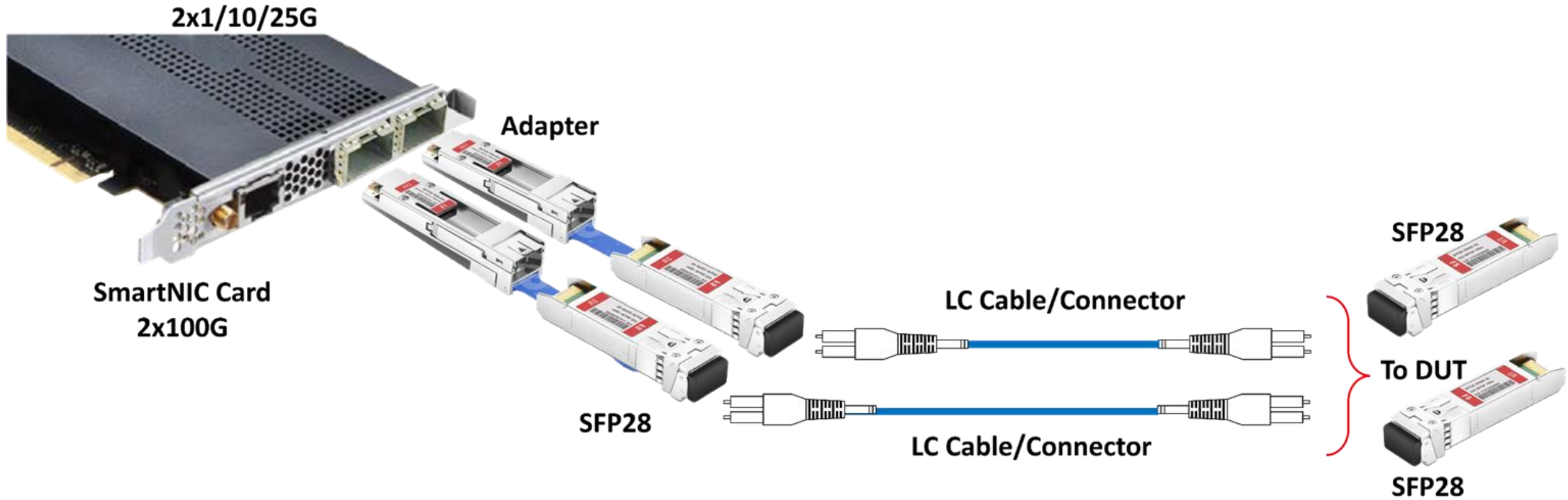
- MAC Addresses:** A table with two columns: Port #1 and Port #2. Values: 00-0D-E9-08-F1-84 and 00-0D-E9-08-F1-85.
- System Monitor:** A table with three columns: Name, Value, and Alarm. Values: Board Temperature (47°C), Core Supply Temperature (50°C).
- Version:** A table with two columns: Description and Value. Values: FPGA Version (23.5.30), Software Version (23.6.16.0).

The 'Application' dropdown menu is open, showing the following options: All Port BERT, BERT/Loopback, All Port Loopback, RFC 2544, IPNetSim, and IPLinkSim.

# 2x1/10, 2x40, 2x50, 2x100 Configuration for SmartNIC 2x40/100G



# 2x1/10/25G Configuration for SmartNIC 2x40/100G



# Configuring PacketExpert™ for 25G/10G/1G Speed

- To select 25G/10G/1G link speed, click on Devices tab and under Speed drop-down list select 25G/10G/1G speed, then load the application
- Now, go to Ports Configuration tab and select the required speed 25G/10G/1G as required

Devices

Serial#	Availability	User	Speed	Application	Test Status
0000-271143	Reserved	Admin	25G/10G/1G	All Port BERT <a href="#">Unload</a>	

Ports Configuration

Select Port: Port1

**Interface Settings**

Interface Type: Optical

Link Speed: 10 G (dropdown menu open showing 25 G, 10 G, 1 G)

FEC: [ ]

SFP: Host [ ] Media [ ]

MAC: [ ]

**MAC/IP Address**

IPv4 Address: 192.168.1.11

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

MAC Address:  HW MAC Address 00-0D-E9-08-F1-8D

IPv6 Address: 1111:1111:1111:1111:1111:1111:0011

[Apply](#) [Cancel](#)

# Basic Software to Include 1G/10G/25G/40G/50G/100G Rates

- All Port BERT
- RFC2544
- Smart Loopback
- BERT/Loopback
- Single Port RFC2544
- Dual Port RFC2544
- ExpertSAM™

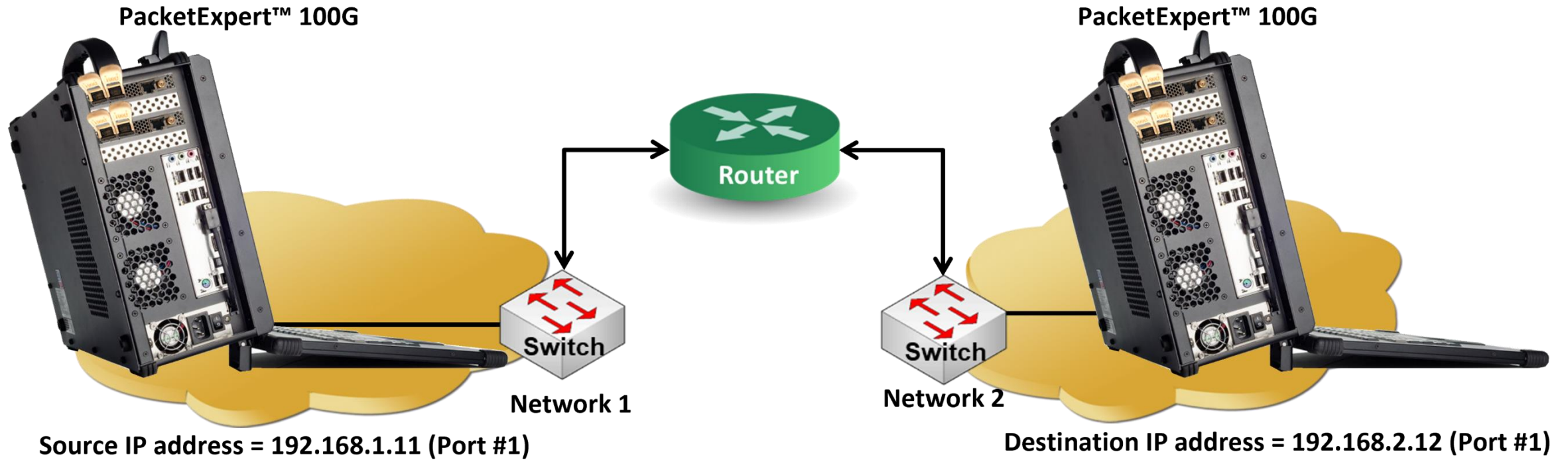
Optional Software licenses includes all the above applications for 1G/10G/25G/40G/50G/100G rates



# All Port BERT

# PacketExpert™ 100G - BER Test Setup at Layer 3 / 4

Layer 3 Testing between PacketExpert™ located in different IP Networks



- BERT test can be performed on various link speed such as **1G, 10G, 25G, or 100G**
- PacketExpert™ 100G can perform BERT across networks

# Loading All Port BERT Application

The screenshot shows the PacketExpert web interface. The browser address bar displays "192.168.1.152:8081". The navigation menu includes "Dashboard", "Servers", "Event Log", and "Admin". The main content area is titled "BERT" and contains a "Load" button, a "Save" button, and a user profile icon. Below this is a "Devices" section with a "Quick Config" button. A table lists device configurations, with the first row highlighted and its "All Port BERT" application and "Unload" button circled in red.

Serial#	Availability	User	Speed	Application	Test Status
0000-270288	Reserved	Admin	100G	All Port BERT Unload	●

**MAC Addresses**

Port #1	Port #2
00-0D-E9-08-D2-EB	00-0D-E9-08-D2-EC

**Device Details**

Name	Serial#	Model#	BoardName
Device1	0000-270288	860-0001-01-20	NT200A02-01

**System Monitor**

Name	Value	Alarm
Board Temperature	45.5°C	●
Core Supply Temperature	46°C	●

**Version**

Description	Value
FPGA Version	
Software Version	

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# Ports Settings

The screenshot shows the PacketExpert web interface. The browser address bar displays '192.168.1.152:8081'. The navigation menu includes 'Dashboard', 'Servers', 'Event Log', and 'Admin'. The main content area is titled 'Ports' and is part of the 'BERT' device configuration. It features sub-tabs for 'Settings', 'SFP Info', and 'SFP Monitor'. A 'Quick Config' button is visible in the top right of the port information section. Below the tabs is a table with the following data:

Port	SFP Description	Link Speed	FEC	MAC Address ✓ HW MAC Address	IP Address	Subnet Mask	Default Gateway	IPv6 Address	Edit
Port1	QSFP28+SR	100 G	✓ MAC	✓ 00-0D-E9-08-D2-EB	192.168.1.11	255.255.255.0	192.168.1.1	1111:1111:1111:1111:1111:1111:0011	
Port2	QSFP28+SR	100 G	✓ MAC	✓ 00-0D-E9-08-D2-EC	192.168.1.12	255.255.255.0	192.168.1.1	2222:2222:2222:2222:2222:2222:0012	

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# Port Configurations

### Ports Configuration

Select Port Port1 ▼

#### Interface Settings

Interface Type Optical      Link Speed 100 G

FEC

MAC

SFP  
Host       Media

#### MAC/IP Address

IPv4 Address	<input type="text" value="192.168.1.11"/>	Subnet Mask	<input type="text" value="255.255.255.0"/>
Default Gateway	<input type="text" value="192.168.1.1"/>	MAC Address	<input checked="" type="checkbox"/> <input type="text" value="00-0D-E9-08-D2-EB"/>
		<input checked="" type="checkbox"/> HW MAC Address	
IPv6 Address	<input type="text" value="1111:1111:1111:1111:1111:1111:0011"/>		

ApplyCancel

# Ports SFP Information

PacketExpert™ Dashboard Servers Event Log Admin

Devices **Ports** BERT Load Save

Settings **SFP Info** SFP Monitor

### SFP Information

Description	Select Port <input type="text" value="Port1"/>	Select Port <input type="text" value="Port2"/>
Identifier	QSFP28 or later with SFF-8636 management interface	QSFP28 or later with SFF-8636 management interface
Connector Type	MPO 1x12 (Multifiber Parallel Optic)	MPO 1x12 (Multifiber Parallel Optic)
Ethernet Compliance	100GBASE-SR4 or 25GBASE-SR	100GBASE-SR4 or 25GBASE-SR
Encoding	64B/66B	64B/66B
Signaling rate, nominal	> 25.4 GBd	> 25.4 GBd
Length (SMF)	-	-
Length (OM3 50um)	70m	70m
Length (OM2 50um)	-	-
Length (OM1 62.5um)	-	-
Length (OM4 50um)	100m	100m
Device technology	850 nm VCSEL	850 nm VCSEL
Vendor name	FS	FS
Vendor OUI	1534464	1534464
Vendor PartNumber	QSFP28-SR4-100G	QSFP28-SR4-100G
Wavelength	850 nm	850 nm
Vendor Revision	04	04
Vendor Serial Number	G2130484437	G2130484436
Vendor Date Code	22/03/20	22/03/20

# Ports SFP Monitor Information

PacketExpert™ Dashboard Servers Event Log Admin

Devices **Ports** BERT Load Save

Settings SFP Info **SFP Monitor**

SFP Monitor Select Port Port1 ▼

Name	Current	Minimum	Maximum	Alarm	Alarm Description
Temperature (C)	52.89	50.02	55.39	●	None
Supply Voltage (V)	3.30	3.28	3.33	●	None
Rx1 Power (dBm)	-5.73	-6.37	-2.91	●	None
Rx2 Power (dBm)	-3.72	-4.16	-3.39	●	None
Rx3 Power (dBm)	-3.27	-3.56	-2.30	●	None
Rx4 Power (dBm)	-2.96	-3.36	-2.50	●	None
Tx1 Power (dBm)	-1.48	-1.60	-1.29	●	None
Tx2 Power (dBm)	-1.52	-1.60	-1.29	●	None
Tx3 Power (dBm)	-1.60	-1.60	-1.29	●	None
Tx4 Power (dBm)	-1.60	-1.60	-1.29	●	None
Tx1 Bias (mA)	7.44	7.44	7.50	●	None
Tx2 Bias (mA)	7.38	7.38	7.44	●	None
Tx3 Bias (mA)	7.50	7.25	7.50	●	None
Tx4 Bias (mA)	7.32	7.32	7.44	●	None

# BERT Summary

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports **BERT** Load Save

**Summary** Configuration Statistics Graph All Ports Statistics

BERT Summary Statistics  View1  View2  Graph Start Selected Stop Selected Reset Selected Report

Port	Config	Start/Stop Tx & Rx	Link Status	Rate (Mbps)		Rx Alarm	Pat Sync	Bit Errors	Traffic Status	Out Of Sequence	Error Duration	Sync Loss Count	Sync Loss Duration	Instantaneous Bit Error Rate	Total Bit Error Count	Bit Error Duration	Time	
				Tx	Rx												Tx	Rx
<input checked="" type="checkbox"/> Port1				98,699.212	98,699.212	No Alarms					00:00:00	0	00:00:00	0.00	0	00:00:00	00:00:15	00:00:15
<input checked="" type="checkbox"/> Port2				98,699.212	98,699.212	No Alarms					00:00:00	0	00:00:00	0.00	0	00:00:00	00:00:15	00:00:15

Port	Tx Total Frames	Rx Total Frames	Non Test Frames	FCS Error Frames	IP Checksum Errors	UDP Checksum Errors	Tx Link Utilization (%)	Rx Link Utilization (%)	Tx Frame Rate (frames/sec)	Rx Frame Rate (frames/sec)
Port1	124,468,455	124,322,296	0	0	0	0	100.000	100.000	8,127,438	8,127,438
Port2	124,322,298	124,468,453	0	0	0	0	100.000	100.000	8,127,438	8,127,438

Port	VLAN Frames	MPLS Frames	IPv4 Packets	IPv6 Packets	UDP Packets	ICMP Packets
Port1	0	0	124,322,294	0	124,322,294	0
Port2	0	0	124,468,452	0	124,468,452	0

BERT Graph No Alarms  Real Time Duration  + -

Time

← 1 → Minute

BERT Graph No Alarms  Real Time Duration  + -

Time

← 1 → Minute



# BERT Configuration - Summary

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports **BERT** Load Save

Summary Configuration Statistics Graph All Ports Statistics

BERT Summary Statistics (View1 View2 Graph) Start Selected Stop Selected Reset Selected Report

Port	Config	Start/Stop Tx & Rx	Link Status	Rate (Mbps)		Rx Alarm	Pat Sync	Bit Errors	Traffic Status	Out Of Sequence	Error Duration	Sync Loss Count	Sync Loss Duration
				Tx	Rx								
Port1				98,699.212	98,699.212	Idle							
Port2				98,699.224	98,699.212	Idle							

**Error Insertion**

Bit Error Insertion

Select Port: Port1

Rate: 10^-4 Start

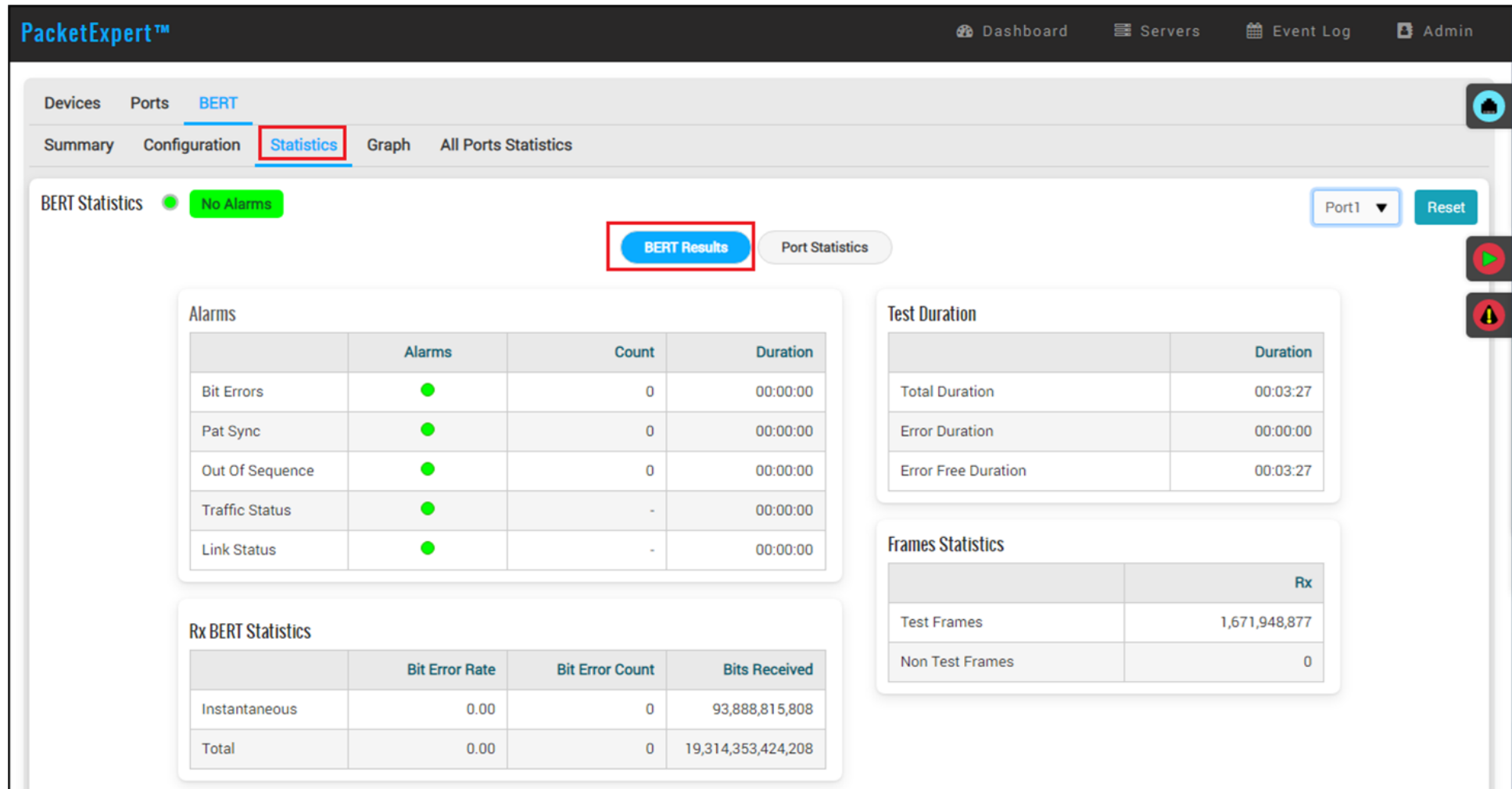
Single Insert

Port	Tx Total Frames	Rx Total Frames	Non Test Frames	FCS Error Frames	IP Checksum Errors	UDP Checksum Errors	Tx Link Utilization (%)	Ut
Port1	184,946,042	184,797,865	184,797,863	0	0	0	100.000	
Port2	184,797,867	184,946,040	184,946,038	0	0	0	100.000	100.000 8,127,439 8,127,438

Port	VLAN Frames	MPLS Frames	IPv4 Packets	IPv6 Packets	UDP Packets	ICMP Packets
Port1	0	0	184,797,863	0	184,797,863	0
Port2	184,946,039	184,946,039	184,946,038	0	184,946,038	0

# BERT Results

- Users can measure out of sequence packets and packet loss through optional sequence number insertion feature
- Provides detailed BERT statistics such as Bit Error Count, Bit Error Rate, Bit Error Seconds and more



The screenshot shows the PacketExpert™ interface for BERT testing. The top navigation bar includes Dashboard, Servers, Event Log, and Admin. The main navigation has Devices, Ports, and BERT. Under BERT, there are tabs for Summary, Configuration, Statistics (highlighted with a red box), Graph, and All Ports Statistics. A 'BERT Results' button is also highlighted with a red box. The interface shows 'No Alarms' and 'Port1' selected. There are three main data sections: Alarms, Test Duration, and Frames Statistics.

**Alarms**

	Alarms	Count	Duration
Bit Errors	●	0	00:00:00
Pat Sync	●	0	00:00:00
Out Of Sequence	●	0	00:00:00
Traffic Status	●	-	00:00:00
Link Status	●	-	00:00:00

**Test Duration**

	Duration
Total Duration	00:03:27
Error Duration	00:00:00
Error Free Duration	00:03:27

**Frames Statistics**

	Rx
Test Frames	1,671,948,877
Non Test Frames	0

**Rx BERT Statistics**

	Bit Error Rate	Bit Error Count	Bits Received
Instantaneous	0.00	0	93,888,815,808
Total	0.00	0	19,314,353,424,208

# Port Statistics

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports **BERT** Load Save

Summary Configuration **Statistics** Graph All Ports Statistics

BERT Statistics **Idle** Port1 Reset

BERT Results **Port Statistics**

### Common Statistics

Description	Tx	Rx
Link Utilization (%)	100.000	100.000
Data Rate (Mbps)	98,699.212	98,699.212
Bad Frames	0	0
Non Test Frames	-	1,062,561,192
FCS Error Frames	-	0
IP Checksum Errors	-	0
UDP Checksum Errors	-	0
Total Frames	1,062,709,371	1,062,561,194
Valid Frames	1,062,709,371	1,062,561,194
Number Of Bytes	1,613,192,825,178	1,612,967,892,492
Frame Rate (frames/sec)	8,127,438	8,127,438

### Packet Type Statistics

Description	Tx	Rx
Broadcast Frames	0	0
Multicast Frames	0	0
Control Frames	0	0
VLAN Frames	1,225,258,138	0
Pause Frames	0	0

### Length Statistics

Description	Tx	Rx
Undersized Frames	0	0
64 Bytes Length	0	0
65-127 Byte Length	0	0
128-255 Byte Length	0	0
256-511 Bytes Length	0	0
512-1023 Bytes Length	0	0
1024-1518 Byte Length	1,225,258,136	1,225,109,959
Oversized Frames	0	0

### VLAN Statistics

Description	Rx
1 Level Stacked VLAN Frames	0
2 Level Stacked VLAN Frames	0
3 Level Stacked VLAN Frames	0

### MPLS Statistics

Description	Rx
1 Level Stacked MPLS Frames	0
2 Level Stacked MPLS Frames	0
3 Level Stacked MPLS Frames	0

### IP Statistics

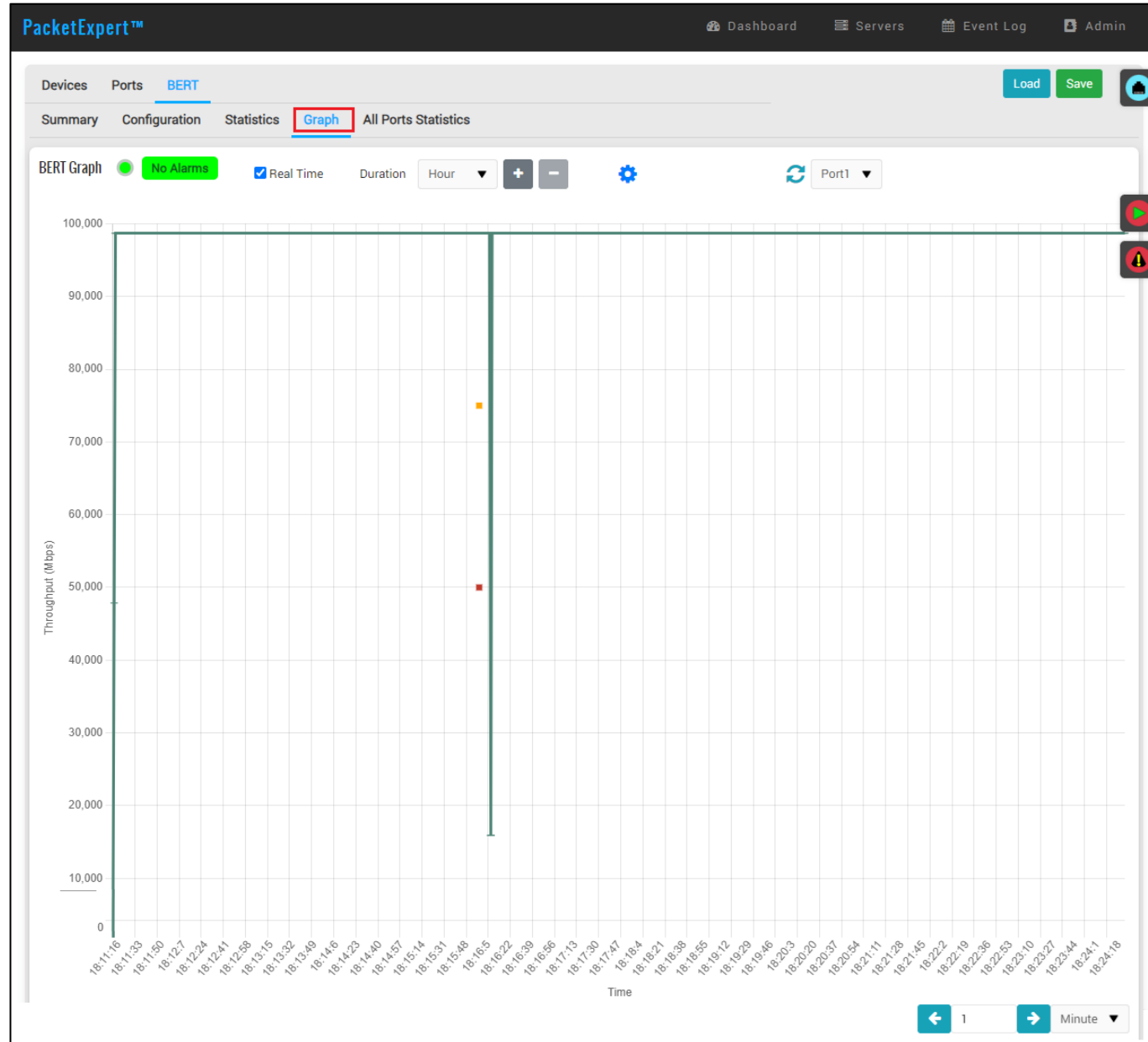
Description	Rx
IP Checksum Errors	0
IPv4 Packets	1,225,109,957
IPv6 Packets	0
IP in IP Packets	0
UDP in IP Packets	1,225,109,957
TCP Packets	0
ICMP Packets	0
IGMP Packets	0
IGRP Packets	0
Other Protocol IP Packets	0

### UDP Statistics

Description	Rx
UDP Checksum Errors	0
UDP Packets	1,225,109,957

GL Communications

# BERT Graph



# All Ports BERT Results

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports **BERT** Load Save

Summary Configuration Statistics Graph **All Ports Statistics**

**BERT Results** Port Statistics

Description	Port1	Port1
Bit Error Alarms	●	●
Pat Sync Alarms	●	●
Out Of Sequence Alarms	●	●
Traffic Status Alarms	●	●
Link Status Alarms	●	●
Bit Error Count	0	0
Sync Loss Count	0	0
Out Of Sequence Count	0	0
Instantaneous Bit Error Count	0	0
Total Bit Error Count	0	0
Bit Error Duration	00:00:00	00:00:00
Sync Loss Duration	00:00:00	00:00:00
Out Of Sequence Duration	00:00:00	00:00:00
Traffic Status Duration	00:00:00	00:00:00
Link Status Duration	00:00:00	00:00:00
Instantaneous Bit Error Rate	0.00	0.00
Instantaneous Bits Received	0	0
Total Bit Error Rate	0.00	0.00
Total Bits Received	0	0
Total Duration	00:08:07	00:08:07
Error Duration	00:08:07	00:08:07
Error Free Duration	00:00:00	00:00:00
Test Frames	0	0
Non Test Frames	3,955,929,202	3,955,929,202

# All Ports Statistics

PacketExpert™ Dashboard Servers Event Log Admin

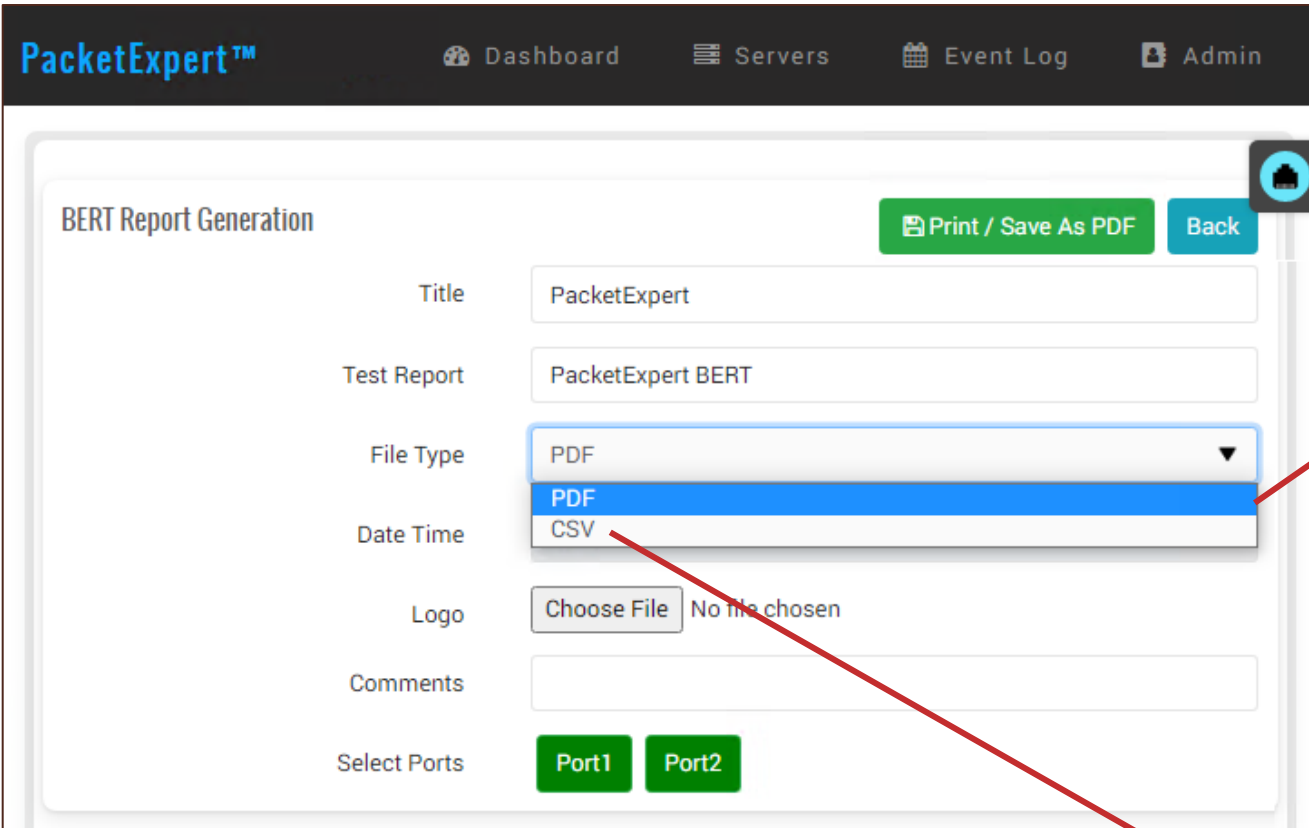
Devices Ports BERT Load Save

Summary Configuration Statistics Graph All Ports Statistics

BERT Results **Port Statistics**

Description	Port1 Tx	Port1 Rx	Port2 Tx	Port2 Rx
Link Utilization (%)	100.000	100.000	100.000	100.000
Number Of Bytes	717,562,694,046	717,562,079,256	4,287,077,726,250	4,299,963,187,278
Frame Rate (frames/sec)	8,127,438	8,127,438	8,127,438	8,127,438
Broadcast Frames	0	0	0	0
Multicast Frames	0	0	0	0
Control Frames	0	0	0	0
VLAN Frames	0	0	0	0
UDP Checksum Errors	-	0	-	2,832,606,549
Total Frames	472,702,697	472,702,292	2,824,161,875	2,832,650,321
Valid Frames	472,702,697	472,702,292	2,824,161,875	2,832,650,321
Pause Frames	0	0	0	0
Undersized Frames	0	0	0	0
64 Bytes Length	0	0	0	0
128-255 Byte Length	0	0	0	0
IGMP Packets	-	0	-	0
IGRP Packets	-	0	-	0
Other Protocol IP Packets	-	0	-	0
UDP Packets	-	472,702,293	-	2,832,650,319
IP Checksum Errors	-	0	-	2,832,463,365

# Report Generation



**PacketExpert™** Dashboard Servers Event Log Admin

### BERT Report Generation

[Print / Save As PDF](#) [Back](#)

Title: PacketExpert

Test Report: PacketExpert BERT

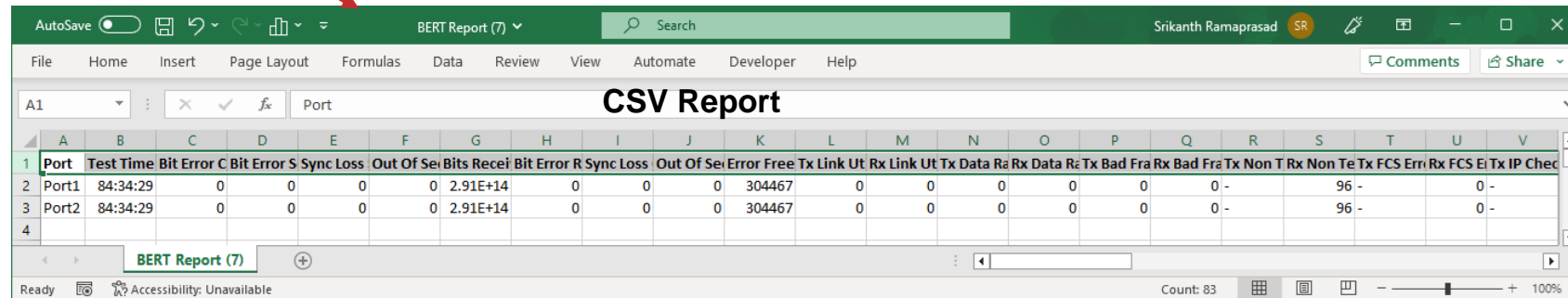
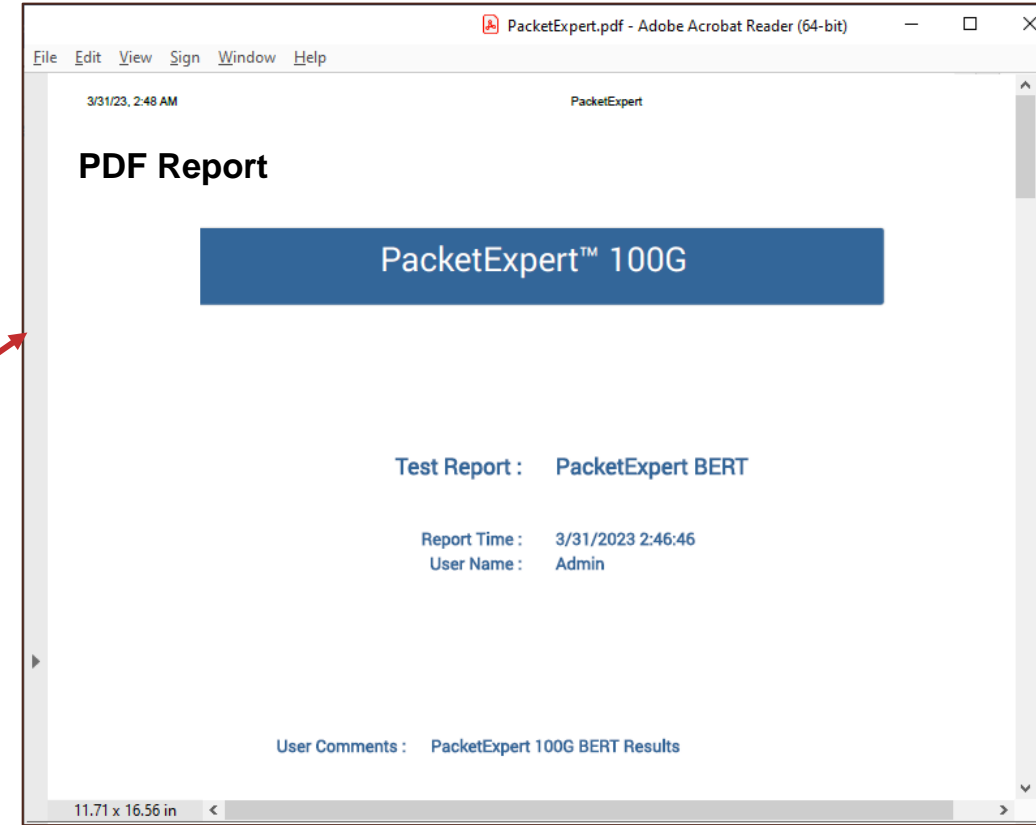
File Type: PDF (selected)

Date Time: CSV

Logo: Choose File No file chosen

Comments:

Select Ports: [Port1](#) [Port2](#)



BERT Report (7)

### CSV Report

Port	Test Time	Bit Error C	Bit Error S	Sync Loss	Out Of Seq	Bits Recei	Bit Error R	Sync Loss	Out Of Seq	Error Free	Tx Link Ut	Rx Link Ut	Tx Data Ra	Rx Data R	Tx Bad Fra	Rx Bad Fra	Tx Non T	Rx Non T	Tx FCS Err	Rx FCS E	Tx IP Chec
Port1	84:34:29	0	0	0	0	2.91E+14	0	0	0	304467	0	0	0	0	0	0	96	-	-	-	0
Port2	84:34:29	0	0	0	0	2.91E+14	0	0	0	304467	0	0	0	0	0	0	96	-	-	-	0

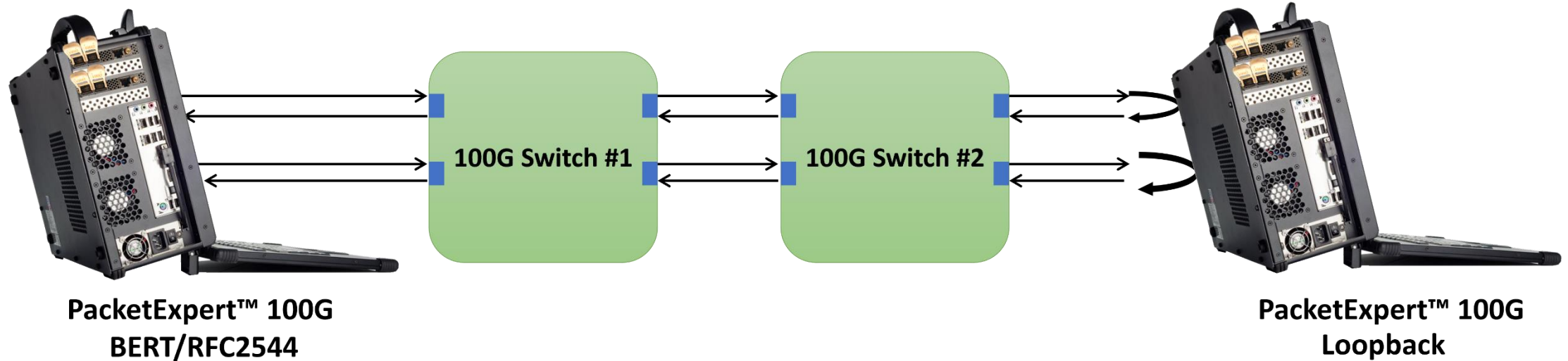
BERT Report (7)

Ready Accessibility: Unavailable Count: 83 100%

# All Port Loopback



# All Port Loopback



**Example:**

**MAC address** - 00-00-00-00-00-01

**IP Address** - 192.168.1.100

**UDP Port** - 1000

**Example:**

**MAC address** - 00-00-00-00-00-02

**IP Address** - 192.168.1.200

**UDP Port** - 2000

- PacketExpert™ 100G has Loopback capability on both ports
- PacketExpert™ 100G supports Smart Loopback
- The above diagram depicts Loopback (Source and Destination MAC addresses swapped) prior to re-transmitting Ethernet frame

# Smart Loopback (Contd.)

## Incoming Packet

Ethernet Destination MAC Address	Ethernet Source MAC Address	Ethernet Length/Type field		Source IP Address	Destination IP Address	IP Protocol		Source UDP Port	Destination UDP Port
00-00-00-00 00 02	00-00-00-00-00-01	08-00 (IP)	...	192.168.1.100	192.168.1.200	17 (UDP)	...	1000	2000

## Outgoing Packet (after swapping Source/Destination MAC addresses, Source/Destination IP Addresses and Source/Destination UDP Ports)

Ethernet Destination MAC Address	Ethernet Source MAC Address	Ethernet Length/Type field		Source IP Address	Destination IP Address	IP Protocol		Source UDP Port	Destination UDP Port
00 00-00 00 00-01	00-00-00-00-00-02	08 00 (IP)	...	192.168.1.200	192.168.1.100	17(UDP)	....	2000	1000

Loopback

Rx

Tx



PacketExpert™ 100G

# Loading All Port Loopback Application

PacketExpert™ Dashboard Servers Event Log Admin

[Devices](#) [Ports](#) [Loopback](#) Load Save

### Devices

Quick Config

Serial#	Availability	User	Speed	Application	Test Status
0000-270288	<span>Reserved</span>	Admin	100G	All Port Loopback <span>Unload</span>	●

### MAC Addresses

Port #1	Port #2
00-0D-E9-08-D2-EB	00-0D-E9-08-D2-EC

### Device Details

Name	Serial#	Model#	BoardName
Device1	0000-270288	860-0001-01-20	NT200A02-01

### System Monitor

Name	Value	Alarm
Board Temperature	43.5°C	●
Core Supply Temperature	45°C	●

### Version

Description	Value
FPGA Version	
Software Version	

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# All Port Loopback Summary

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports Loopback Load Save

Summary Statistics

Loopback Summary  View1  View2 ▶ Start Selected ■ Stop Selected 📄 Report

<input checked="" type="checkbox"/> Port 	Start/Stop	Alarms	Time	Rate (Mbps)	
				Tx	Rx
<input checked="" type="checkbox"/> Port1		<span>No Alarms</span>	00:04:21	9,869.842	9,869.951
<input checked="" type="checkbox"/> Port2		<span>No Alarms</span>	00:04:19	9,869.854	9,869.963

# All Port Loopback Statistics

Devices Ports **Loopback** Load Save

Summary **Statistics**

Port Statistics Running Port1 Reset

### Common Statistics

Description	Tx	Rx
Link Utilization (%)	49.999	50.000
Data Rate (Mbps)	4,934.921	4,934.982
Bad Frames	0	0
Non Test Frames	-	0
FCS Error Frames	-	0
IP Checksum Errors	-	0
UDP Checksum Errors	-	0
Total Frames	269,905,951	269,913,194
Valid Frames	269,905,951	269,913,194
Number Of Bytes	409,717,233,618	409,728,228,492
Frame Rate (frames/sec)	812,734	812,744

### VLAN Statistics

Description	Rx
1 Level Stacked VLAN Frames	0
2 Level Stacked VLAN Frames	0
3 Level Stacked VLAN Frames	0

### MPLS Statistics

Description	Rx
1 Level Stacked MPLS Frames	0
2 Level Stacked MPLS Frames	0
3 Level Stacked MPLS Frames	0

### IP Statistics

Description	Rx
IP Checksum Errors	0
IPv4 Packets	283,729,838
IPv6 Packets	0
IP in IP Packets	0
UDP in IP Packets	283,729,838
TCP Packets	0
ICMP Packets	0
IGMP Packets	0
IGRP Packets	0
Other Protocol IP Packets	0

### Packet Type Statistics

Description	Tx	Rx
Broadcast Frames	0	0
Multicast Frames	0	0
Control Frames	0	0
VLAN Frames	0	0
Pause Frames	0	0

### UDP Statistics

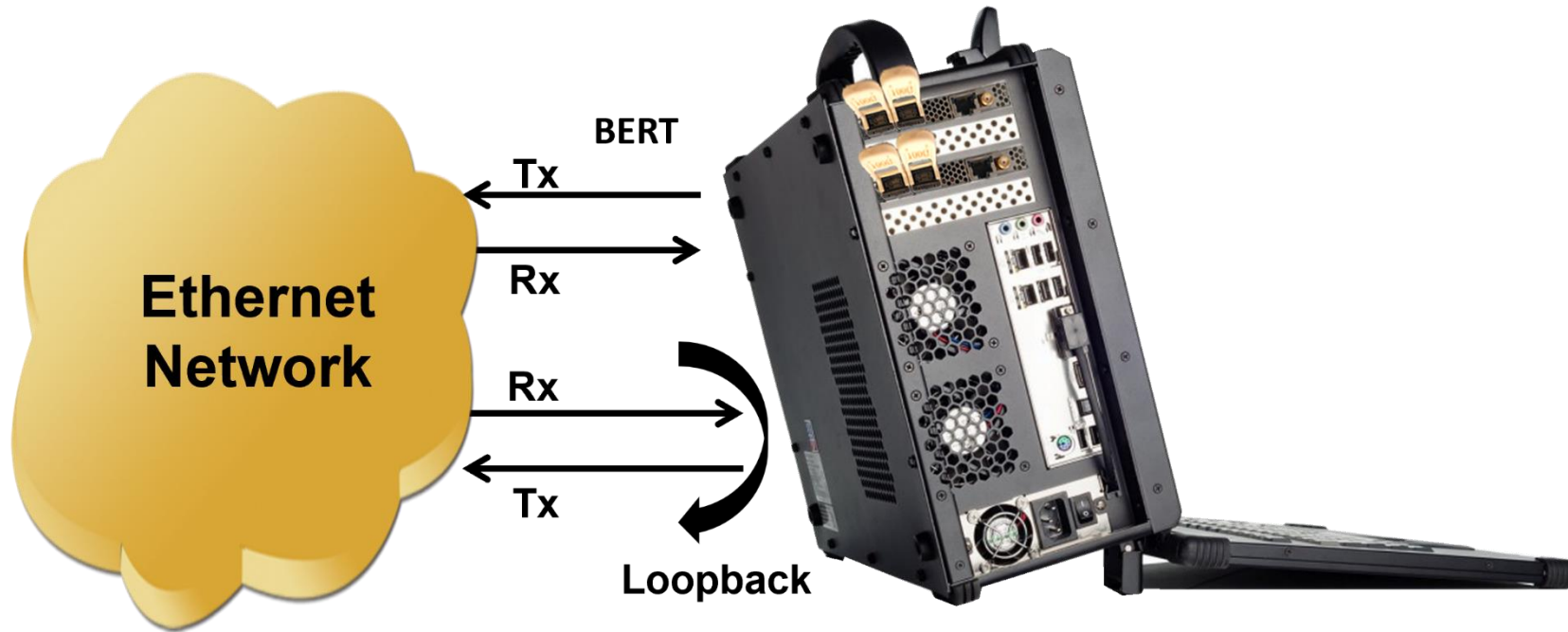
Description	Rx
UDP Checksum Errors	0
UDP Packets	283,729,838

### Length Statistics

Description	Tx	Rx
Undersized Frames	0	0
64 Bytes Length	0	0
65-127 Byte Length	0	0
128-255 Byte Length	0	0
256-511 Bytes Length	0	0
512-1023 Bytes Length	0	0
1024-1518 Byte Length	283,722,433	283,729,839
Oversized Frames	0	0

# BERT and Loopback

# BERT and Loopback



**PacketExpert™ 100G w/ Rest Server**

**(Port #1 MAC Address = aa-aa-aa-aa-aa-aa)**

**(Port #2 MAC Address = (bb-bb-bb-bb-bb-bb))**

- For testing across a network, the remote PacketExpert™ 100G can be left in Loopback mode. BERT is controlled by the local end PacketExpert™ 100G

# Loading BERT and Loopback Application

PacketExpert™ Dashboard Servers Event Log Admin

[Devices](#) [Ports](#) [BERT](#) [Loopback](#) Load Save

Devices Quick Config

Serial#	Availability	User	Speed	Application	Test Status
0000-270288	<span>Reserved</span>	Admin	100G	BERT/Loopback <span>Unload</span>	●

MAC Addresses

Port #1	Port #2
00-0D-E9-08-D2-EB	00-0D-E9-08-D2-EC

Device Details

Name	Serial#	Model#	BoardName
Device1	0000-270288	860-0001-01-20	NT200A02-01

System Monitor

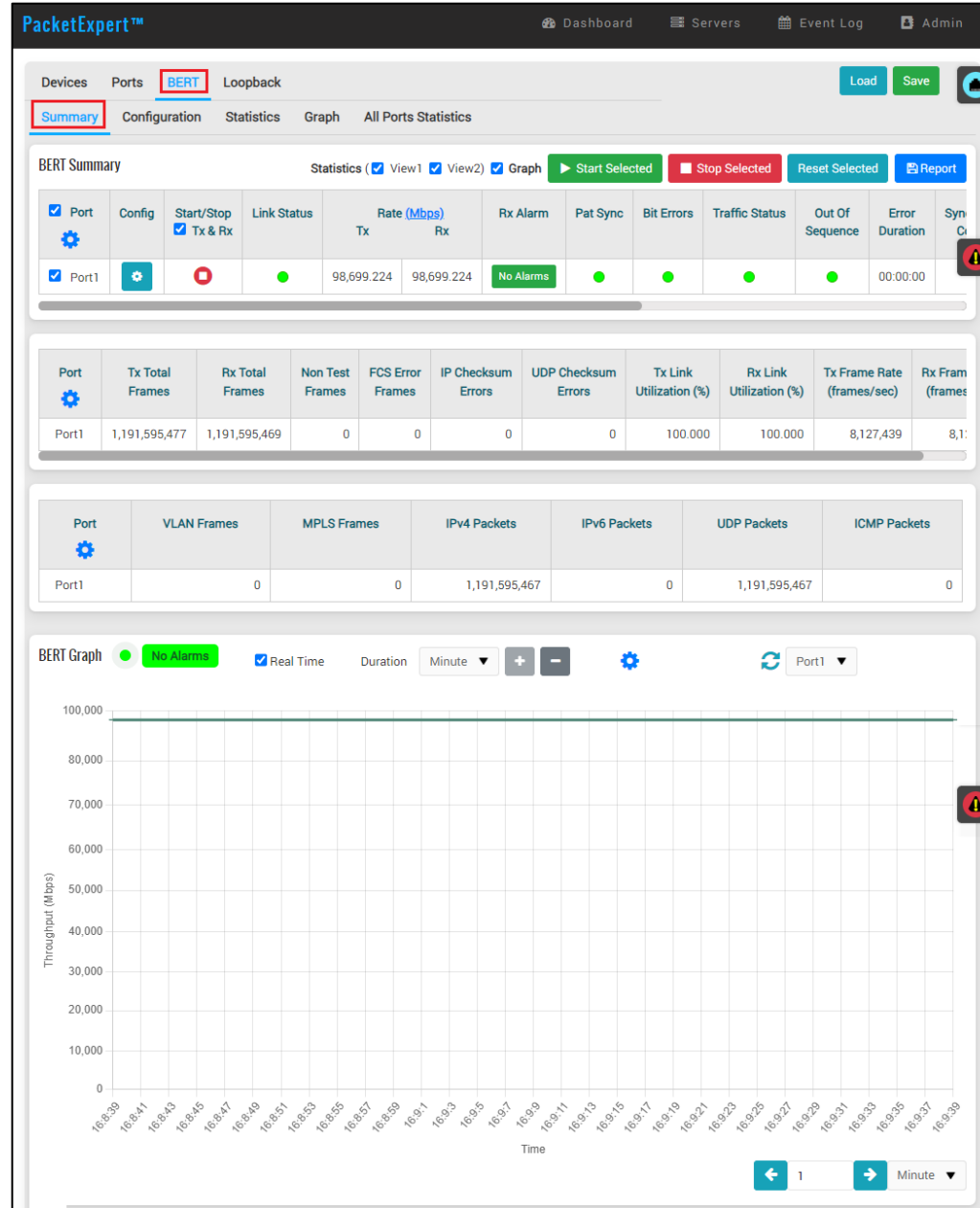
Name	Value	Alarm
Board Temperature	46.5°C	●
Core Supply Temperature	47°C	●

Version

Description	Value
FPGA Version	
Software Version	



# BERT Summary



# BERT Results

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports **BERT** Loopback Load Save

Summary Configuration **Statistics** Graph All Ports Statistics

BERT Statistics ● No Alarms Port1 ▼ Reset

**BERT Results** Port Statistics

### Alarms

	Alarms	Count	Duration
Bit Errors	●	0	00:00:00
Pat Sync	●	0	00:00:00
Out Of Sequence	●	0	00:00:00
Traffic Status	●	-	00:00:00
Link Status	●	-	00:00:00

### Test Duration

	Duration
Total Duration	00:09:43
Error Duration	00:00:00
Error Free Duration	00:09:43

### Frames Statistics

	Rx
Test Frames	4,733,790,813
Non Test Frames	0

### Rx BERT Statistics

	Bit Error Rate	Bit Error Count	Bits Received
Instantaneous	0.00	0	95,448,179,456
Total	0.00	0	55,593,639,308,528

# BERT Port Statistics

Devices Ports **BERT** Loopback Load Save

Summary Configuration **Statistics** Graph All Ports Statistics

BERT Statistics No Alarms Port1 Reset

BERT Results **Port Statistics**

**Common Statistics**

Description	Tx	Rx
Link Utilization (%)	100.000	100.000
Data Rate (Mbps)	98,699.212	98,699.224
Bad Frames	0	0
Non Test Frames	-	0
FCS Error Frames	-	0
IP Checksum Errors	-	0
UDP Checksum Errors	-	0
Total Frames	5,451,448,156	5,451,448,148
Valid Frames	5,451,448,156	5,451,448,148
Number Of Bytes	8,275,298,300,808	8,275,298,288,664
Frame Rate (frames/sec)	8,127,438	8,127,439

**Packet Type Statistics**

Description	Tx	Rx
Broadcast Frames	0	0
Multicast Frames	0	0
Control Frames	0	0
VLAN Frames	0	0
Pause Frames	0	0

**Length Statistics**

Description	Tx	Rx
Undersized Frames	0	0
64 Bytes Length	0	0
65-127 Byte Length	0	0
128-255 Byte Length	0	0
256-511 Bytes Length	0	0
512-1023 Bytes Length	0	0
1024-1518 Byte Length	5,711,526,179	5,711,526,171
Oversized Frames	0	0

**VLAN Statistics**

Description	Rx
1 Level Stacked VLAN Frames	0
2 Level Stacked VLAN Frames	0
3 Level Stacked VLAN Frames	0

**MPLS Statistics**

Description	Rx
1 Level Stacked MPLS Frames	0
2 Level Stacked MPLS Frames	0
3 Level Stacked MPLS Frames	0

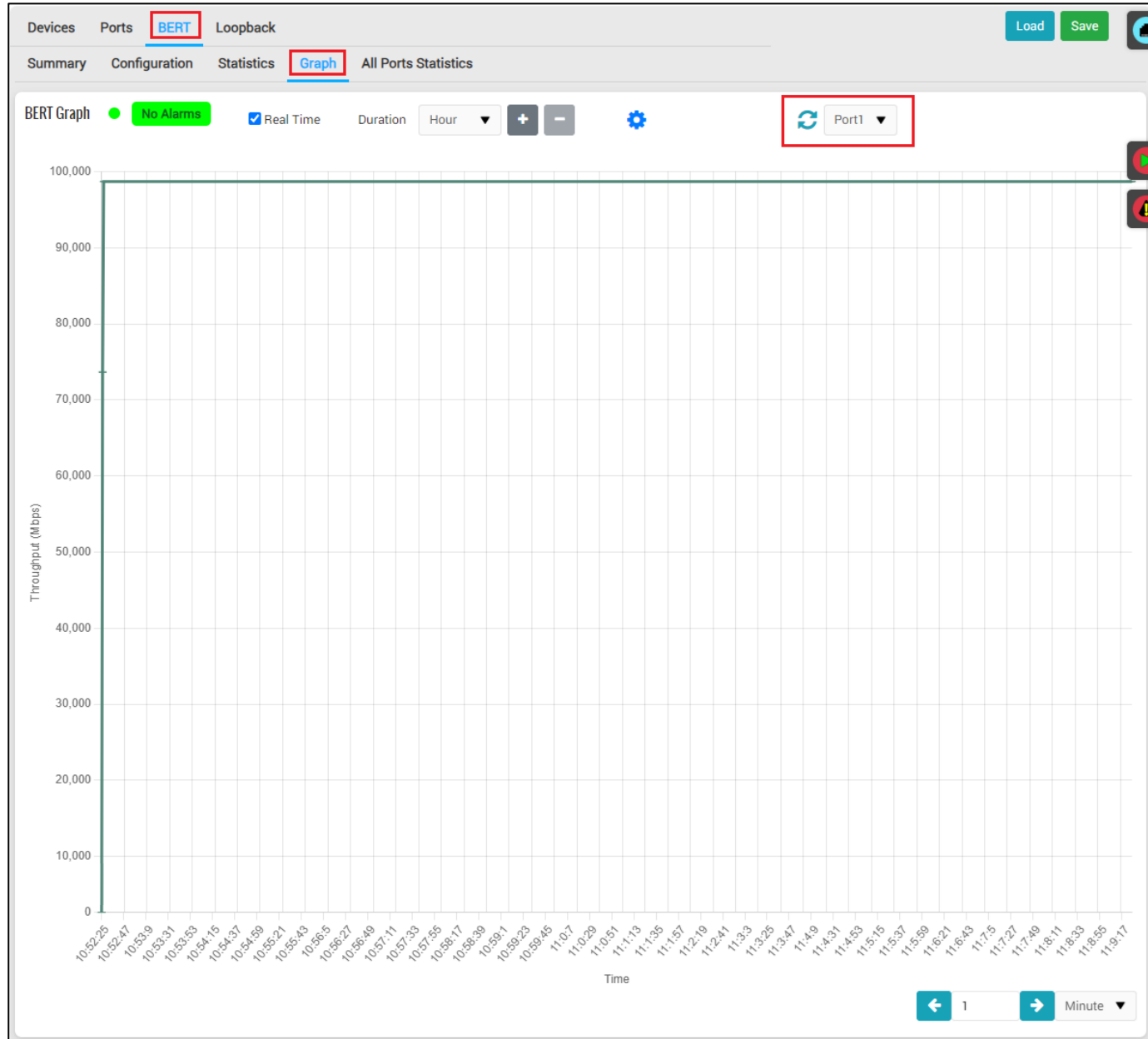
**IP Statistics**

Description	Rx
IP Checksum Errors	0
IPv4 Packets	5,451,448,146
IPv6 Packets	0
IP in IP Packets	0
UDP in IP Packets	5,711,526,169
TCP Packets	0
ICMP Packets	0
IGMP Packets	0
IGRP Packets	0
Other Protocol IP Packets	0

**UDP Statistics**

Description	Rx
UDP Checksum Errors	0
UDP Packets	5,711,526,169

# All Port Loopback - BERT Graph



# All Ports Statistics -BERT Results

Devices Ports **BERT** Loopback Load Save

Summary Configuration Statistics Graph **All Ports Statistics**

**BERT Results** Port Statistics


Description	Port1
Bit Error Alarms	
Pat Sync Alarms	
Out Of Sequence Alarms	
Traffic Status Alarms	
Link Status Alarms	
Bit Error Count	0
Sync Loss Count	0
Out Of Sequence Count	0
Instantaneous Bit Error Count	0
Total Bit Error Count	0
Bit Error Duration	00:00:00
Sync Loss Duration	00:00:00
Out Of Sequence Duration	00:00:00
Traffic Status Duration	00:00:00
Link Status Duration	00:00:00
Instantaneous Bit Error Rate	0.00
Instantaneous Bits Received	95,448,182,704
Total Bit Error Rate	0.00
Total Bits Received	126,797,983,567,472
Total Duration	00:22:09
Error Duration	00:00:00
Error Free Duration	00:22:09
Test Frames	10,796,831,026
Non Test Frames	0

# All Ports Statistics -BERT Results

Devices Ports **BERT** Loopback Load Save

Summary Configuration Statistics Graph **All Ports Statistics**

BERT Results **Port Statistics**

Description 	Port1 ▼ Tx ▼	Port1 ▼ Rx ▼	Port2 ▼ Tx ▼	Port2 ▼ Rx ▼
Link Utilization (%)	100.000	100.000	100.000	100.000
Number Of Bytes	17,898,510,263,568	17,898,510,251,424	17,886,172,803,576	17,886,172,809,648
Frame Rate (frames/sec)	8,127,438	8,127,438	8,127,439	8,127,438
Broadcast Frames	0	0	0	0
Multicast Frames	0	0	0	0
Control Frames	0	0	0	0
VLAN Frames	0	0	0	0
UDP Checksum Errors	-	0	-	0
Total Frames	11,790,849,976	11,790,849,968	11,782,722,532	11,782,722,536
Valid Frames	11,790,849,976	11,790,849,968	11,782,722,532	11,782,722,536
Pause Frames	0	0	0	0
Undersized Frames	0	0	0	0
64 Bytes Length	0	0	0	0
128-255 Byte Length	0	0	0	0
IGMP Packets	-	0	-	0
IGRP Packets	-	0	-	0
Other Protocol IP Packets	-	0	-	0
UDP Packets	-	11,790,849,966	-	11,782,722,534
IP Checksum Errors	-	0	-	11,782,542,744

# Loopback Summary

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports BERT **Loopback** Load Save

**Summary** Statistics

### Loopback Summary

View1  View2 ▶ Start Selected ■ Stop Selected 📄 Report

<input checked="" type="checkbox"/> Port ⚙️	Start/Stop	Alarms	Time	Rate (Mbps)	
				Tx	Rx
<input checked="" type="checkbox"/> Port2	⏹️	<span>No Alarms</span>	00:00:18	98,699.224	98,699.212

Port ⚙️	Tx Total Frames	Rx Total Frames	Non Test Frames	FCS Error Frames	IP Checksum Errors	UDP Checksum Errors	Tx Link Utilization (%)	Rx Link Utilization (%)	Tx Frame Rate (frames/sec)	Rx Frame Rate (frames/sec)
Port2	78,136,433	78,136,437	0	0	78,135,243	0	100.000	100.000	8,127,439	8,127,438

Port ⚙️	VLAN Frames	MPLS Frames	IPv4 Packets	IPv6 Packets	UDP Packets	ICMP Packets
Port2	0	0	78,136,435	0	78,136,435	0

# Loopback Statistics

Devices Ports BERT **Loopback** Load Save

Summary **Statistics**

Port Statistics Running

Port2 Reset

### Common Statistics

Description	Tx	Rx
Link Utilization (%)	100.000	100.000
Data Rate (Mbps)	98,699,212	98,699,212
Bad Frames	0	0
Non Test Frames	-	0
FCS Error Frames	-	0
IP Checksum Errors	-	13,603,061,128
UDP Checksum Errors	-	0
Total Frames	13,603,268,695	13,603,268,700
Valid Frames	13,603,268,695	13,603,268,700
Number Of Bytes	20,649,761,879,010	20,649,761,886,600
Frame Rate (frames/sec)	8,127,438	8,127,438

### VLAN Statistics

Description	Rx
1 Level Stacked VLAN Frames	0
2 Level Stacked VLAN Frames	0
3 Level Stacked VLAN Frames	0

### MPLS Statistics

Description	Rx
1 Level Stacked MPLS Frames	0
2 Level Stacked MPLS Frames	0
3 Level Stacked MPLS Frames	0

### IP Statistics

Description	Rx
IP Checksum Errors	13,749,352,784
IPv4 Packets	13,749,562,586
IPv6 Packets	0
IP in IP Packets	0
UDP in IP Packets	13,749,562,586
TCP Packets	0
ICMP Packets	0
IGMP Packets	0
IGRP Packets	0
Other Protocol IP Packets	0

### Packet Type Statistics

Description	Tx	Rx
Broadcast Frames	0	0
Multicast Frames	0	0
Control Frames	0	0
VLAN Frames	0	0
Pause Frames	0	0

### UDP Statistics

Description	Rx
UDP Checksum Errors	0
UDP Packets	13,749,562,586

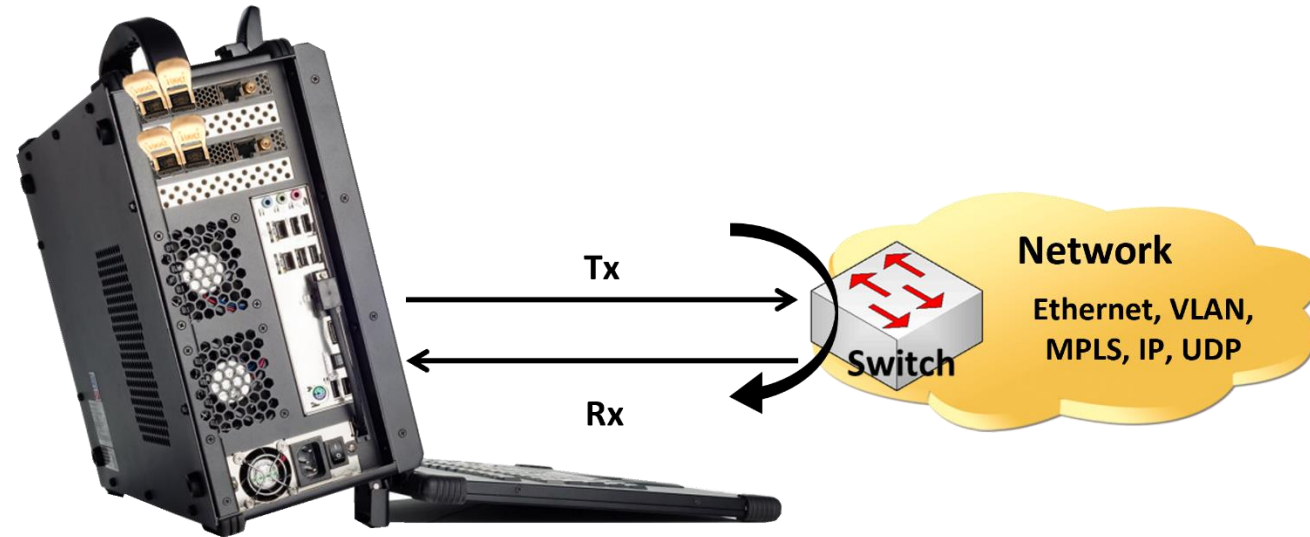
### Length Statistics

Description	Tx	Rx
Undersized Frames	0	0
64 Bytes Length	0	0
65-127 Byte Length	0	0
128-255 Byte Length	0	0
256-511 Bytes Length	0	0
512-1023 Bytes Length	0	0
1024-1518 Byte Length	13,749,562,584	13,749,562,588
Oversized Frames	0	0



# RFC 2544

# Dual RFC 2544 Testing

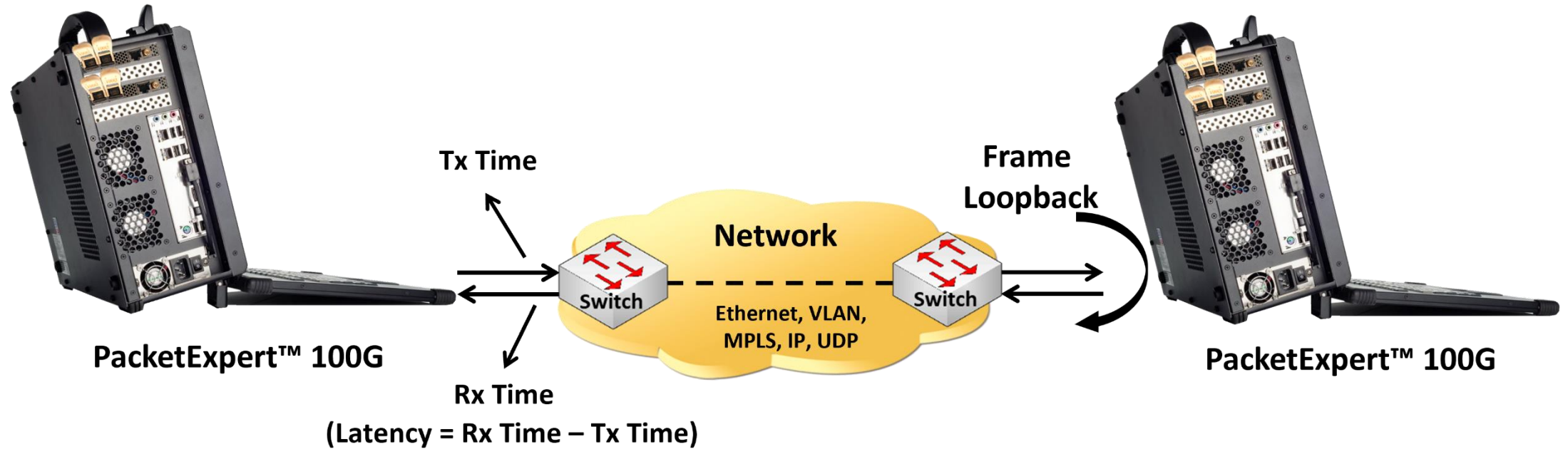


**PacketExpert™ 100G**

RFC 2544 test application includes the following tests:

- **Throughput** - Maximum number of frames per second that can be transmitted without any error
- **Latency** - Measures the time required for a frame to travel from the originating device through the network to the destination device
- **Frame Loss** - Measures the network's response in overload conditions
- **Back-to-Back** - Measures the maximum number of frames received at full line rate before a frame is lost

# Single Port RFC 2544



In single port RFC 2544 test,

- For PacketExpert™ 100G, the RFC 2544 test can be done either on Port #1 or Port #2 at a time and it is not possible to run RFC 2544 test on both the ports (Port #1, Port #2) simultaneously

# Loading RFC 2544 Application

PacketExpert™ Dashboard Servers Event Log Admin

[Devices](#) [Ports](#) [RFC 2544](#) Load Save

Devices Quick Config

Serial#	Availability	User	Speed	Application	Test Status
0000-270288	<span>Reserved</span>	Admin	100G	RFC 2544 <span>Unload</span>	●

MAC Addresses

Port #1	Port #2
00-0D-E9-08-D2-EB	00-0D-E9-08-D2-EC

Device Details

Name	Serial#	Model#	BoardName
Device1	0000-270288	860-0001-01-20	NT200A02-01

System Monitor

Name	Value	Alarm
Board Temperature	43°C	●
Core Supply Temperature	44°C	●

Version

Description	Value
FPGA Version	
Software Version	

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# Single and Dual Port RFC 2544 Applications

## Single Port RFC 2544

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports **RFC 2544** Load Save

Summary RFC 2544 Configuration Port Configuration Results Port Statistics

RFC 2544 Summary Start Selected Stop Selected Report

<input checked="" type="checkbox"/>	<input type="checkbox"/> Single/Dual	Port	Config	Start/Stop	Test Time	Throughput	Latency	FrameLoss	BackToBack
<input checked="" type="checkbox"/>	<input type="checkbox"/>	● Port1			00:00:00	●	●	●	●
<input checked="" type="checkbox"/>	<input type="checkbox"/>	● Port2			00:00:00	●	●	●	●

## Dual Port RFC 2544

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports **RFC 2544** Load Save

Summary RFC 2544 Configuration Port Configuration Results Port Statistics

RFC 2544 Summary Start Selected Stop Selected Report

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Single/Dual	Port	Config	Start/Stop	Test Time	Throughput	Latency	FrameLoss	BackToBack
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	● Port1 - Port2			00:08:40	✓	✓	✓	✓

# RFC 2544 - Global Configurations

The screenshot displays the PacketExpert™ web interface for configuring RFC 2544 tests. The top navigation bar includes 'Dashboard', 'Servers', 'Event Log', and 'Admin'. The main content area is titled 'RFC 2544 Configuration' and is currently in 'Idle' status. A dropdown menu shows 'Port1-Port2'. Below this, there are three tabs: 'Summary', 'Global Configuration' (highlighted with a red box), and 'Test Configuration'. The 'Global Configuration' section is divided into two sub-sections: 'Unidirectional Mode' and 'Bidirectional Mode' (selected). The 'Bidirectional Mode' section contains 'Frame Sizes' and 'Test Selection'.

**Frame Sizes**

Quantity: 7 (dropdown) | **Default** | Quick Config | Range (64-16000)

64 | 128 | 256 | 512 | 1024

1280 | 1518

**Test Selection**

- Throughput
- Latency
- Frame Loss
- Back To Back

# RFC 2544 - Test Configurations

The screenshot displays the PacketExpert™ interface for configuring RFC 2544 tests. The top navigation bar includes 'Dashboard', 'Servers', 'Event Log', and 'Admin'. The main header shows 'Devices', 'Ports', and 'RFC 2544' with 'Load' and 'Save' buttons. Below this, a sub-header contains 'Summary', 'RFC 2544 Configuration', 'Port Configuration', 'Results', and 'Port Statistics'. The main content area is titled 'RFC 2544 Configuration' and shows a status of 'Idle'. A dropdown menu indicates 'Port1-Port2'. Three tabs are visible: 'Summary', 'Global Configuration', and 'Test Configuration' (which is highlighted with a red box). The 'Test Configuration' tab contains four panels: 'Throughput', 'Latency', 'Frame Loss', and 'Back To Back'. Each panel has various input fields for trial duration, number of trials, resolution, bandwidth, and acceptable frame loss, along with checkboxes for using throughput values.

PacketExpert™

Dashboard Servers Event Log Admin

Devices Ports **RFC 2544** Load Save

Summary **RFC 2544 Configuration** Port Configuration Results Port Statistics

RFC 2544 Configuration ● Idle Port1-Port2 ▼

Summary Global Configuration **Test Configuration**

**Throughput**

Trial Duration (sec) 10 Acceptable Frame Loss (%) 0

Resolution (%) 2.5

Number Of Trials 1

East → West West → East

Min Bandwidth (%) 10 Min Bandwidth (%) 10

Max Bandwidth (%) 100 Max Bandwidth (%) 100

**Latency**

Trial Duration (sec) 10

Number Of Trials 1

East → West West → East

Bandwidth (%) 100 Bandwidth (%) 100

Use Throughput Value  Use Throughput Value

**Frame Loss**

Trial Duration (sec) 10

Number Of Trials 1

East → West West → East

Start Rate (%) 10 Start Rate (%) 10

End Rate (%) 100 End Rate (%) 100

Step Size (%) 10 Step Size (%) 10

**Back To Back**

Number Of Trials 1 Resolution (frames) 1

Acceptable Frame Loss (%) 0

East → West West → East

Burst Size Burst Size

Min (sec) 2 Min (sec) 2

Max (sec) 10 Max (sec) 10

# RFC 2544 Results - Overall

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports RFC 2544 Load Save

Summary RFC 2544 Configuration Port Configuration Results Port Statistics

RFC 2544 Results ● Idle Port1-Port2 ▼

Overall Throughput Latency Frame Loss Back To Back

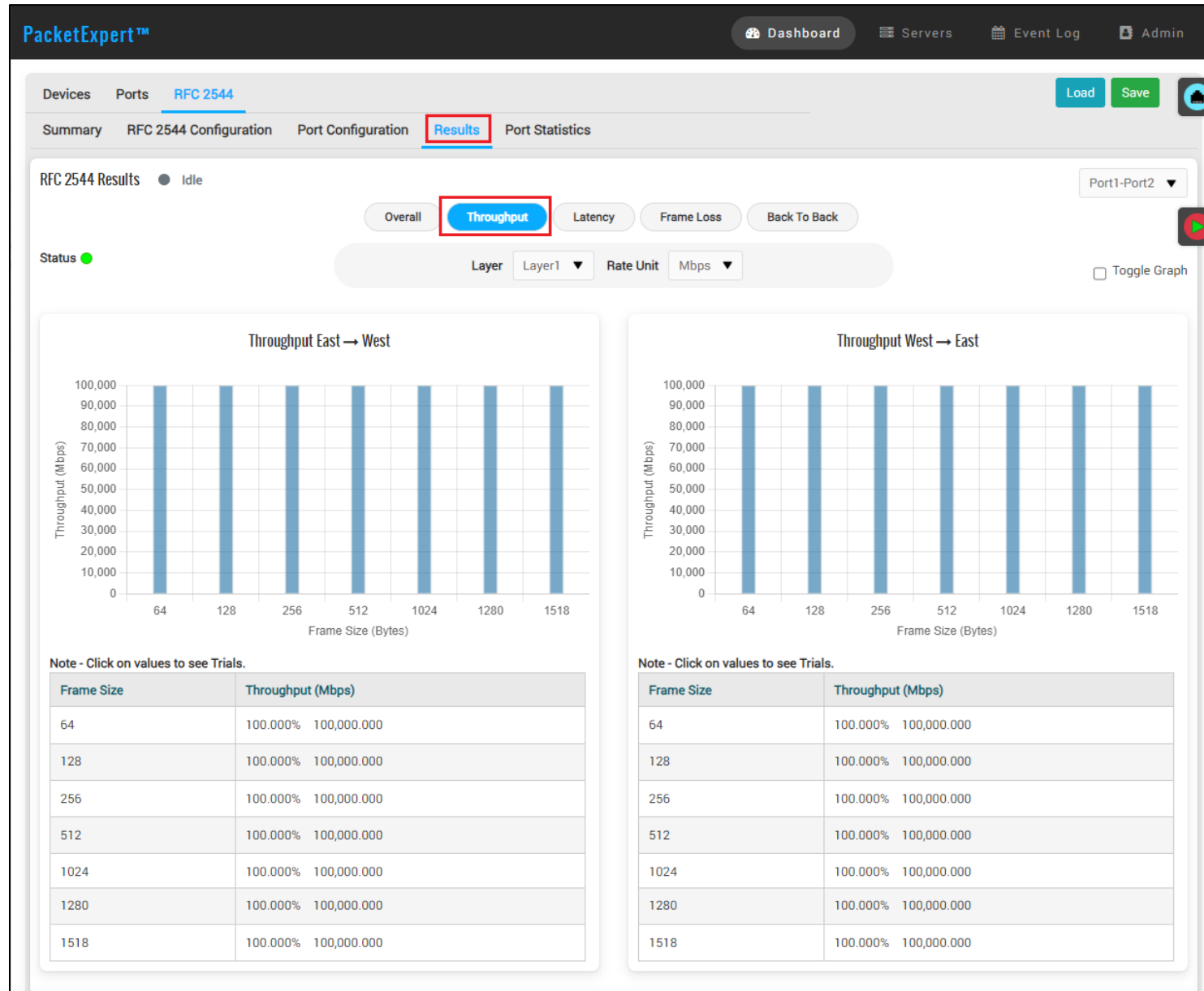
Test	Frame Size	Direction	Trial#	Bandwidth(%)	Tx Frames	Rx Frames
BackToBack	1518	E → W	1	100.000	16,254,876	16,254,876
BackToBack	1518	W → E	1	100.000	16,254,876	16,254,876

Note - Click on values to see Trials.

Frame Size	Direction	Throughput		Latency		Frame Loss Rate (%)		Back To Back
		Layer	Rate Unit	Type	Unit	Rate	Rate Unit	Unit
64	E → W	Layer1 ▼	Mbps ▼	Cut Through ▼	msec ▼	100000 ▼	Mbps ▼	sec ▼
	W → E							
128	E → W							
	W → E							
256	E → W							
	W → E							
512	E → W							
	W → E							
1024	E → W							
	W → E							
1280	E → W							
	W → E							
1518	E → W							
	W → E							



# RFC 2544 Results - Throughput



# RFC 2544 Results - Latency

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports RFC 2544 Load Save

Summary RFC 2544 Configuration Port Configuration Results Port Statistics

RFC 2544 Results ● Idle Port1-Port2 ▼

Overall Throughput **Latency** Frame Loss Back To Back

Status ● Type Cut Through Unit msec Layer Layer1 Rate Unit Mbps  Toggle Graph

TestRate

Latency East → West

Frame Size (Bytes)	Latency (msec)
64	0.00038
128	0.00036
256	0.00034
512	0.00035
1280	0.00034
1518	0.00033

Latency West → East

Frame Size (Bytes)	Latency (msec)
64	0.00039
128	0.00037
256	0.00035
512	0.00034
1280	0.00035
1518	0.00034

Note - Click on Latency values to see Trials.

Frame Size	Latency (msec)	Test Rate (Mbps)
64	< 0.001	100,000.000
128	< 0.001	100,000.000
256	< 0.001	100,000.000
512	< 0.001	100,000.000
1024	0	0
1280	< 0.001	100,000.000
1518	< 0.001	100,000.000

Note - Click on Latency values to see Trials.

Frame Size	Latency (msec)	Test Rate (Mbps)
64	< 0.001	100,000.000
128	< 0.001	100,000.000
256	< 0.001	100,000.000
512	< 0.001	100,000.000
1024	0	0
1280	< 0.001	100,000.000
1518	< 0.001	100,000.000

# RFC 2544 Results - Frame Loss

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports RFC 2544 Load Save Home

Summary RFC 2544 Configuration Port Configuration Results Port Statistics

RFC 2544 Results Idle Port1-Port2

Overall Throughput Latency Frame Loss Back To Back

Status ● Frame Size 64 Layer Layer1 Rate Unit Mbps Toggle Graph

Frame Loss East → West

Select All Deselect All (Click on Legends to Select/Deselect Frames)

Legend: 64, 128, 256, 512, 1024, 1280, 1518

Note - Click on Frame Size values to see Trials.

Frame Size	Input Rate (Mbps)	Frame Loss Rate (%)
64	100,000.000	0
	90,000.000	0
	80,000.000	0
	70,000.000	0
	60,000.000	0
	50,000.000	0
	40,000.000	0
	30,000.000	0
	20,000.000	0
	10,000.000	0

Frame Loss West → East

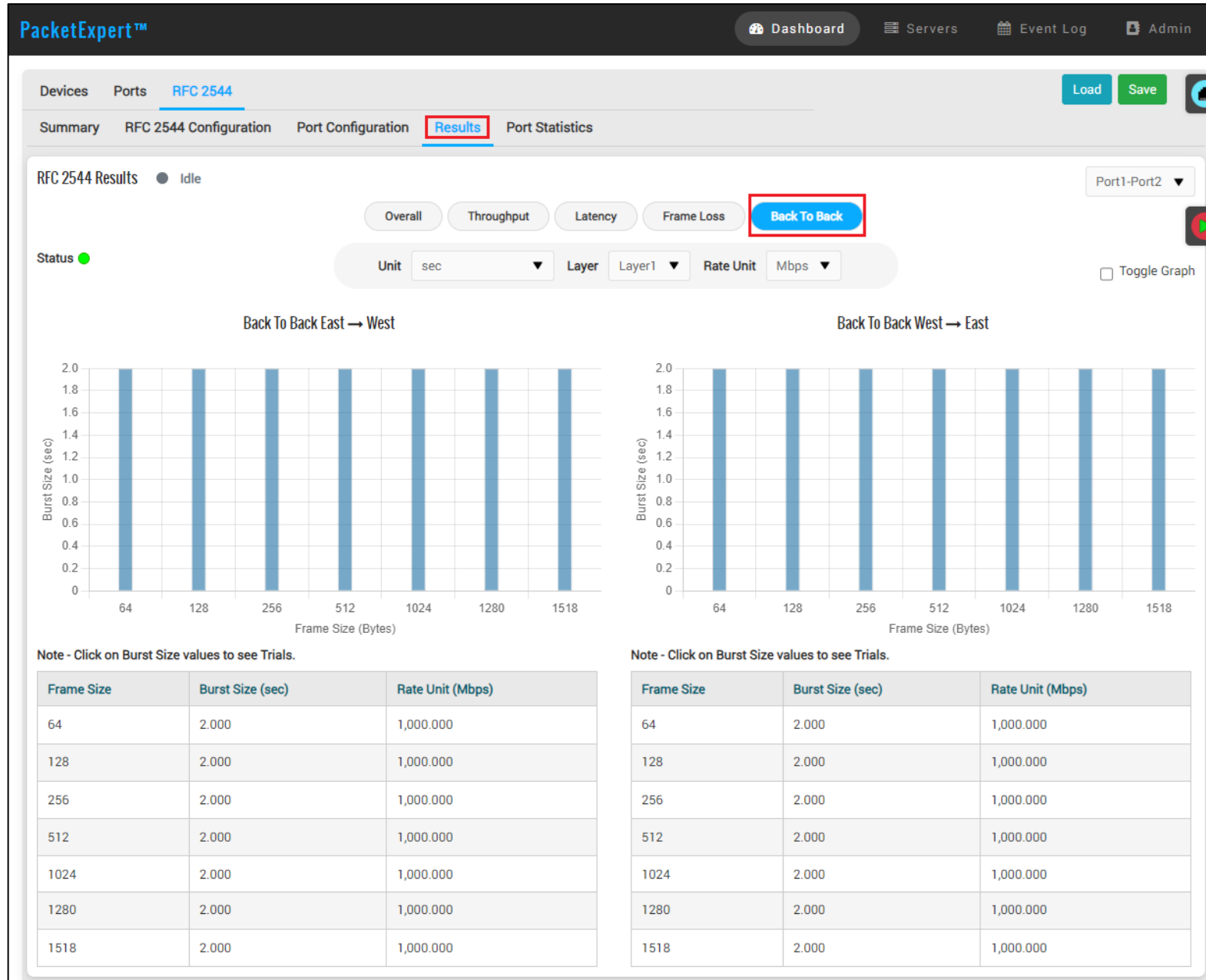
Select All Deselect All (Click on Legends to Select/Deselect Frames)

Legend: 64, 128, 256, 512, 1024, 1280, 1518

Note - Click on Frame Size values to see Trials.

Frame Size	Input Rate (Mbps)	Frame Loss Rate (%)
64	100,000.000	0
	90,000.000	0
	80,000.000	0
	70,000.000	0
	60,000.000	0
	50,000.000	0
	40,000.000	0
	30,000.000	0
	20,000.000	0
	10,000.000	0

# RFC 2544 Results - Back to Back



# RFC 2544 Port Statistics

PacketExpert™ Dashboard Servers Event Log Admin

Devices Ports **RFC 2544** Load Save

Summary RFC 2544 Configuration Port Configuration Results **Port Statistics**

Port Statistics Idle

Port1

### Common Statistics

Description	Tx	Rx
Link Utilization (%)	0.000	0.000
Data Rate (Mbps)	0.000	0.000
Bad Frames	0	0
Non Test Frames	-	0
FCS Error Frames	-	0
IP Checksum Errors	-	0
UDP Checksum Errors	-	0
Total Frames	16,254,876	16,254,876
Valid Frames	16,254,876	16,254,876
Number Of Bytes	24,674,901,768	24,674,901,768
Frame Rate (frames/sec)	0	0

### Packet Type Statistics

Description	Tx	Rx
Broadcast Frames	0	0
Multicast Frames	0	0
Control Frames	0	0
VLAN Frames	0	0
Pause Frames	0	0

### Length Statistics

Description	Tx	Rx
Undersized Frames	0	0
64 Bytes Length	0	0
65-127 Byte Length	0	0
128-255 Byte Length	0	0
256-511 Bytes Length	0	0
512-1023 Bytes Length	0	0
1024-1518 Byte Length	16,254,876	16,254,876
Oversized Frames	0	0

### VLAN Statistics

Description	Rx
1 Level Stacked VLAN Frames	0
2 Level Stacked VLAN Frames	0
3 Level Stacked VLAN Frames	0

### MPLS Statistics

Description	Rx
1 Level Stacked MPLS Frames	0
2 Level Stacked MPLS Frames	0
3 Level Stacked MPLS Frames	0

### IP Statistics

Description	Rx
IP Checksum Errors	0
IPv4 Packets	16,254,876
IPv6 Packets	0
IP in IP Packets	0
UDP in IP Packets	16,254,876
TCP Packets	0
ICMP Packets	0
IGMP Packets	0
IGRP Packets	0
Other Protocol IP Packets	0

### UDP Statistics

Description	Rx
UDP Checksum Errors	0
UDP Packets	16,254,876

**Thank you**